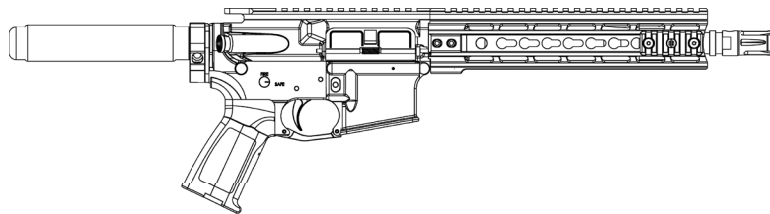


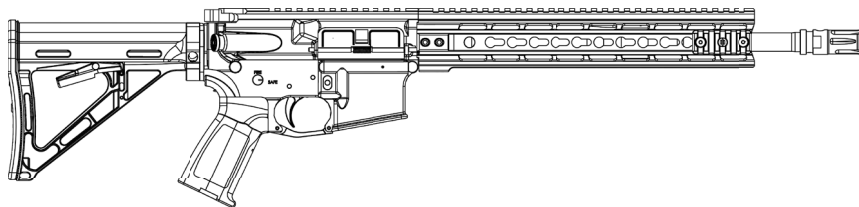
PWS MODERN MUSKET DI RIFLE SERIES USER MANUAL

END USER MAINTENANCE MANUAL

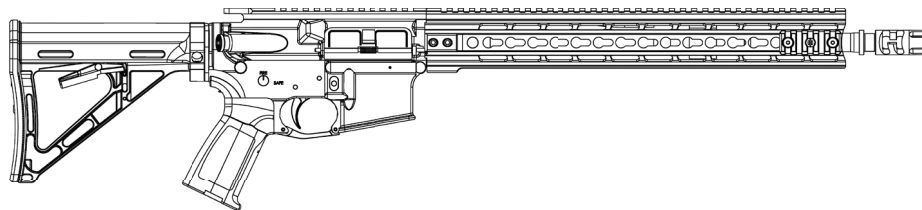
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PISTOL, .223 WYLDE, DI-10P
(D110PA1B)



RIFLE, .223 WYLDE, DI-14
(D114RA1B)
RIFLE, .223 WYLDE, DI-14 LE
(D114RA1BLE)



RIFLE, .223 WYLDE, DI-16
(D116RA1B)

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WARNING

ALL WARNINGS in this user and maintenance manual pertain to all versions of PWS rifles, carbines and uppers unless otherwise specified.

Prior to beginning an inspection, ensure the rifle is UNLOADED. DO NOT pull the trigger until the rifle has been cleared. Remove the magazine and inspect the chamber to ensure that it is empty and that a round is not chambered.

Do not keep live ammunition near work area.

To avoid injury, use caution when removing and installing spring-loaded components.

The bolt cam pin must be installed or irreparable damage will occur to the weapon and injury or death of personnel may result.

Cleaning solvents are flammable and toxic and should be used only in a well-ventilated area. The use of rubber gloves is necessary to protect the skin when cleaning rifle parts.

Avoid skin contact when using carbon removing compounds. If carbon removing compound comes in contact with the skin, wash thoroughly with running water. Using gloves and protective equipment is required.

CLEARING PROCEDURE

1. Orient the muzzle in a designated SAFE DIRECTION.
2. Attempt to place selector lever on SAFE (If weapon is not cocked, lever cannot be placed on SAFE).
3. Remove the magazine by depressing the magazine catch button and pulling the magazine away from the receiver.
4. Lock the bolt open by pull the charging handle rearward while pressing the bottom of bolt catch.
5. Ensuring the Bolt Carrier Group (BCG) is locked rearward, return the charging handle to full forward position.
6. If you have not done so before, place the selector lever on SAFE.
7. Visually (not physically) inspect the receiver and chamber to ensure these areas contain no ammunition.
8. Send the bolt forward on an empty chamber, by pressing the top of the bolt catch.
9. Close the ejection port cover.

**Unit and Direct Support Maintenance Manual
(Including Repair Parts and Special Tools List)
For**

**PISTOL, .223 Wylde, DI-10P
(D110PA1B)**

**RIFLE, .223 WYLDE, DI-14
(D114RA1B)**

**RIFLE, .223 Wylde, DI-14LE
(D114RA1BLE)**

**RIFLE, .223 Wylde, DI-16
(D116RA1B)**

**Current as of September 2014
CONTENT ADOPTED FROM US ARMY TM9-1005-319-23**

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SAFETY IS YOUR NUMBER ONE RESPONSIBILITY

Regardless of where you are, the first concern of every firearm owner should be safety. Apply the following safety rules in every situation and with any kind of firearm. If you feel uncertain about any operational aspects of your firearm, please contact Primary Weapons Systems, Inc. (PWS) customer service at (208) 780-6122 before proceeding with its operation.

SAFETY WARNINGS

YOU MUST FOLLOW ALL SAFETY RULES TO ENSURE THE SAFE USE OF YOUR FIREARM. FAILURE TO FOLLOW THE INSTRUCTIONS AND WARNINGS IN THIS MANUAL COULD CAUSE SERIOUS PERSONAL INJURY OR DEATH TO YOU OR OTHERS AND DAMAGE TO PROPERTY.

As a gun owner, you accept a demanding responsibility. How seriously you take this responsibility can be the difference between life and death. There is no excuse for careless or abusive handling of your firearm. Handle your firearm with extreme respect for its power and potential danger.

ALWAYS KEEP YOUR FIREARM POINTED IN A SAFE DIRECTION

Never point a firearm at anyone or anything you do not intend to destroy whether it is or is not loaded. This is particularly important when loading, unloading, or field stripping the firearm.

ALWAYS control the direction of the firearm.

NEVER stick any product made by Primary Weapons Systems in your anal cavity. Rectal insertion of any of our products can cause irreparable damage to both your rectum and your high quality firearm accessory.

ALWAYS TREAT EVERY FIREARM AS IF IT IS LOADED AND WILL FIRE

Do not take someone's word that the firearm is unloaded – always check it yourself. Never pass your firearm to another person until the cylinder or action is open and you visually check that it is unloaded. Keep your firearm unloaded and safely stored when not in use.

NEVER PLACE YOUR FINGER INSIDE THE TRIGGER GUARD OR ON THE TRIGGER UNLESS YOU INTEND TO FIRE

Ensure that other objects do not touch the trigger.

ALWAYS BE SURE OF YOUR TARGET AND WHAT IS BEYOND IT

Always be sure of where the bullet will strike and shoot only where there is a safe back stop free of obstructions, water or other surfaces that can cause ricochets. Be sure your bullet will stop behind your target. Bullets can ricochet and travel in unpredictable directions with considerable velocity. Do not fire randomly into the sky.

ALWAYS WEAR EYE AND EAR PROTECTION THAT IS SPECIFIED FOR USE WITH FIREARMS

Proper protective equipment should be worn every time you handle your firearm for purposes of discharging your firearm or for cleaning and maintenance. Ensure that others in the vicinity of where you are shooting also wear proper ear and eye protection.

NEVER USE ALCOHOL OR DRUGS BEFORE OR WHILE SHOOTING

Do not use your firearm if you are under the influence of a substance or medication that impairs your mental or physical abilities.

ALWAYS HAVE ADEQUATE VENTILATION

Discharging firearms in poorly ventilated areas, cleaning firearms, or handling ammunition may result in exposure to lead and other substances known to cause birth defects, reproductive harm, and other serious physical illness. Review the warnings and labels for all ammunition and cleaning products carefully. Wash hands thoroughly after exposure.

BEFORE HANDLING ANY FIREARM, UNDERSTAND ITS OPERATION

Not all firearms are the same. Familiarize yourself with the mechanical features of any firearm you intend to use. If you feel uncertain about any operational aspects of your PWS firearm, please contact PWS Customer Service at (208) 780-6122 before proceeding with its operation.

NEVER ALLOW A FIREARM TO BE USED BY INDIVIDUALS WHO DO NOT UNDERSTAND ITS SAFE OPERATION OR HAVE NOT READ THESE FIREARM SAFETY RULES

ALWAYS USE THE CORRECT AMMUNITION FOR YOUR PARTICULAR FIREARM

Never use non-standard, reloaded, or “hand loaded” ammunition that has not been subjected to internal ballistic pressure testing.

BEWARE OF BARREL OBSTRUCTIONS

Be sure the barrel is clear of obstructions before shooting. Mud, water, snow or other objects may inadvertently lodge in the barrel bore. A small obstruction can cause a dangerous increase in pressure and may damage your weapon and cause injury to yourself and others.

ENSURE ALL ACCESSORIES ARE COMPATIBLE

Ensure that all accessories such as grips, slings, scopes and other accessories are compatible with the firearm and that the accessories do not interfere with safe operation. It is your responsibility to understand and follow all of the instructions in this manual, as well as those that may be supplied with your ammunition and any accessory.

NEVER DISASSEMBLE YOUR FIREARM BEYOND THE FIELD STRIPPING PROCEDURE OUTLINED IN THIS MANUAL

Improper disassembly or reassembly of your firearm may be dangerous and can lead to serious injury or death.

NEVER MANIPULATE, ADJUST OR CHANGE ANY OF THE INTERNAL COMPONENTS OF YOUR FIREARM UNLESS SPECIFICALLY INSTRUCTED TO DO SO IN THIS MANUAL

Improper manipulation of any other internal component may affect the safety and reliability of your firearm and may cause serious injury or death.

NEVER ALLOW ANY ALTERATION OR REPLACEMENT OF PARTS IN YOUR PWS FIREARM UNLESS PERFORMED BY A QUALIFIED GUNSMITH

Repairs or replacements should only be done by a qualified gunsmith using genuine PWS parts. If you do otherwise, improper functioning of your firearm may occur and serious injury or death and damage to property may result.

FIREARM USE WARNING

SAFE USE OF A FIREARM IS YOUR PERSONAL RESPONSIBILITY AND THE FAILURE TO FOLLOW ALL OF THESE BASIC SAFETY RULES MAY RESULT IN SEVERE PERSONAL INJURY OR DEATH TO YOU OR OTHERS AND DAMAGE TO PROPERTY. YOU ARE THE MOST IMPORTANT SAFETY DEVICE WHEN IT COMES TO THE USE OF YOUR FIREARM. PRIMARY WEAPONS SYSTEMS, INC WILL NOT BE RESPONSIBLE FOR ANY PERSONAL INJURY, DEATH OR PROPERTY DAMAGE THAT RESULTS FROM: (1) THE CRIMINAL OR NEGLIGENT USE OF THIS FIREARM; (2) A DISREGARD OF THESE SAFETY INSTRUCTIONS AND WARNINGS; (3) IMPROPER OR CARELESS HANDLING OF THIS FIREARM; (4) THE USE OF NON-STANDARD, DEFECTIVE, IMPROPER OR RELOADED AMMUNITION; OR (5) IMPROPER OR NEGLIGENT MODIFICATIONS OR REPAIRS TO THE FIREARM.

USED FIREARM DISCLAIMER

BUYER AGREES TO HAVE ANY USED FIREARM CHECKED BY A CERTIFIED GUNSMITH PRIOR TO FIRING. BUYER ASSUMES ALL LEGALITY, LIABILITY AND RESPONSIBILITY FOR THE CONDITION, USE AND SECURITY/STORAGE OF THE PURCHASED FIREARM. BUYER UNDERSTANDS THAT ALL FIREARMS ARE POTENTIALLY DANGEROUS IF HANDLED IMPROPERLY. UPON PURCHASE, BUYER ASSUMES ALL LIABILITY AND RESPONSIBILITY INCLUDING BUT NOT LIMITED TO THE USAGE AND SAFE STORAGE OF THE PURCHASED FIREARM.

GENERAL INFORMATION

Your firearm is a lightweight, direct impingement (DI), air cooled, magazine-fed rifle produced for a high degree of accuracy, reliability, and durability. The firearm's construction features extensive use of aircraft-grade forgings, CNC-machined components and high-quality barrels. The design of this system utilizes many of the same ergonomics and features present in the popular PWS MK1 rifle series. It is our intent to provide our customers with the best possible rifle available over other DI offerings.

BARREL LIFE

Barrel life depends on how fast the rifle is fired and how accurate the shooter insists it must be. Firing the rifle as fast as the trigger can be pulled or sustained full-auto fire can ruin the barrel in just a few hundred rounds. Firing at controlled rates, both semi-auto and burst, will allow your barrel to last for 5,000 to 10,000 rounds with acceptable accuracy levels. As with any quality barrel, a proper barrel break-in will ensure your new PWS product is as accurate as possible and proper maintenance will help your product last much longer. PWS recommends you clean your rifle or upper at least every 250 rounds.

APPEARANCE AND RECEIVER FIT

Your new rifle is not a custom firearm. PWS requires a close fit between the receivers, but normal forging and machining variations may result in play or slight side to side receiver mismatch. This is not a manufacturing defect and has no adverse effect on accuracy or the weapon's function. All PWS rifles and uppers are test-fired before leaving our facility. New rifles will normally show evidence of this firing. If the receiver looks light or uneven in color, it is most likely dry and a light coat of oil on the metallic surfaces will improve its appearance. The upper and lower receivers are made from forgings because forgings provide superior strength over billet machining processes. By the very nature of a forging, small dents and dings on the outside of the receiver may be visible. No forging is free of them. This is not a defect.

MODIFICATION WARNING

YOUR PWS FIREARM WAS DESIGNED TO FUNCTION PROPERLY WITH ITS ORIGINAL COMPONENTS FROM THE FACTORY. ALTERATIONS TO THE ORIGINAL COMPONENTS OR REPLACEMENT OF THEM WITH AFTERMARKET (NON-PWS MANUFACTURED) COMPONENTS CAN CAUSE MALFUNCTIONS OR EVEN MAKE THE FIREARM UNSAFE. DO NOT ALTER ANY PART OR ADD /SUBSTITUTE PARTS NOT MANUFACTURED BY PRIMARY WEAPONS SYSTEMS, INC. ATTEMPTED CUSTOMIZATION OF YOUR PWS PRODUCT MAY VOID YOUR WARRANTY.

HOW TO USE THIS MANUAL

Please read this manual carefully before performing any maintenance. This manual must be referred to for all inspection, maintenance and repair procedures.

GENERAL

1. There are several things you need to know to use this manual efficiently and effectively.
2. All references in the manual are to pages only. Reference to maintenance procedures is to the page where the respective initial setup appears.
3. Illustrations for the maintenance procedures show only those parts affected by the operation being performed.
4. When a procedure is common to Modern Musket series rifles, **ONLY** the DI-14 configuration will be depicted. If a selected procedure is not common to all models of the Modern Musket series, separate procedures will be illustrated.
5. When the word rifle is referenced in text, it will reference the rifle and the carbines.

INDEXES

This manual is organized to help you find the information you need quickly. There are several useful indexes.

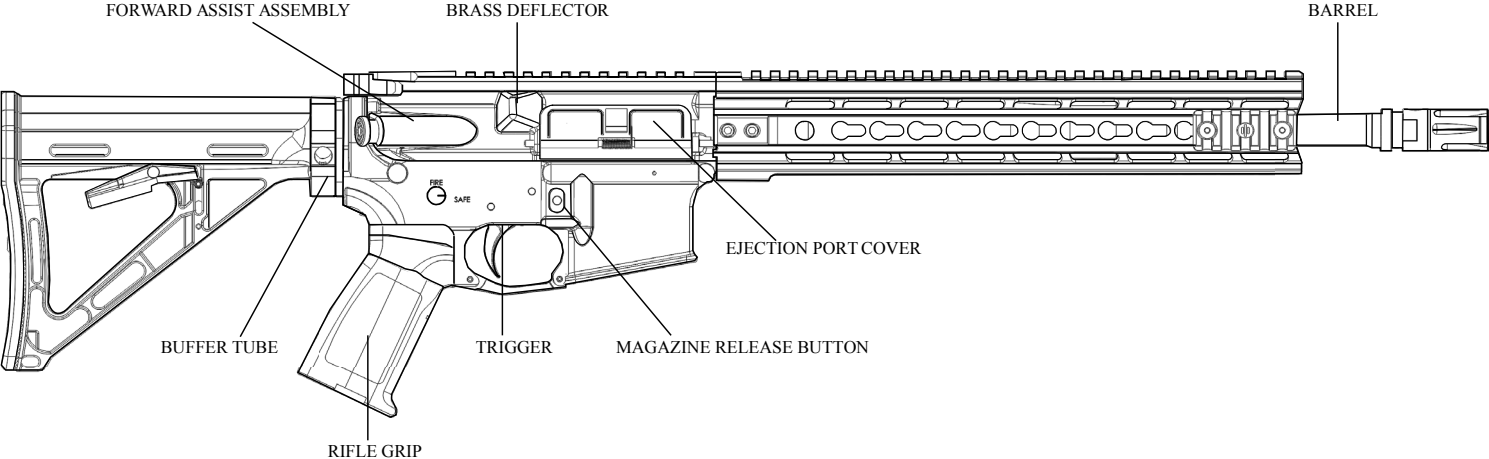
1. Table of Contents – lists all chapters, sections, and appendices along with the referenced pages
2. Chapter Overviews – Summarizes material covered in the chapter at the beginning of each chapter
3. Symptom Index – lists, in alphabetical order, parts of the rifle with possible malfunctions. Located just before the troubleshooting table in each maintenance chapter

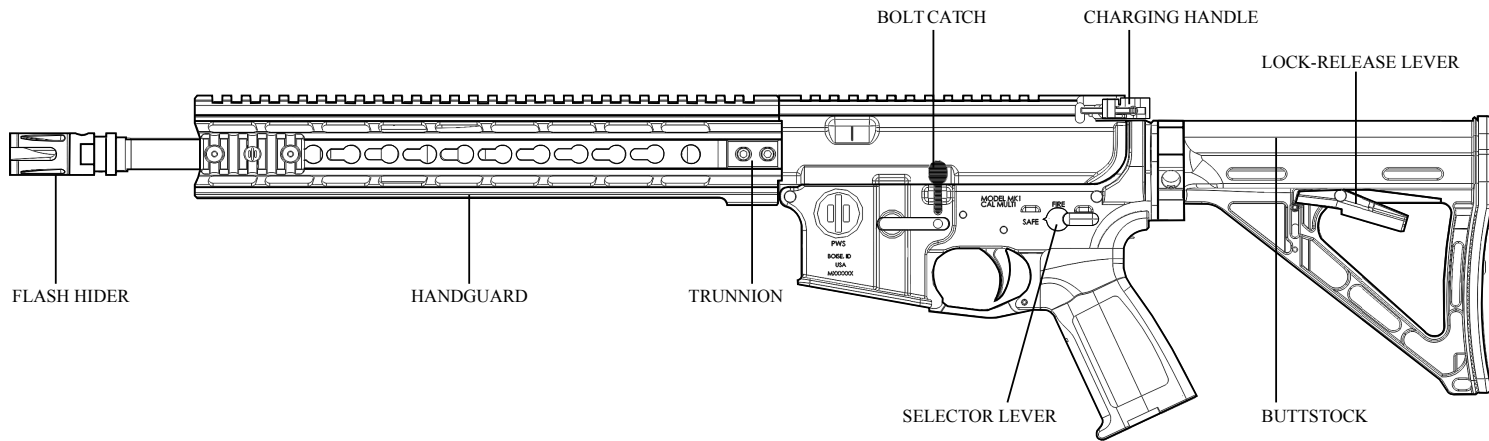
MAINTENANCE PROCEDURES

There are two maintenance chapters:

Each maintenance task has an initial setup containing a list of the following things you will need in order to do maintenance task:

1. Materials/Parts – Lists expendable materials followed by part number or appendix reference
2. Equipment Condition – Lists conditions to be met before starting the procedure
3. General Safety Instructions – Lists safety instructions to follow before performing maintenance procedures





CHAPTER 1

INTRODUCTION

CHAPTER OVERVIEW

This chapter contains general information, equipment description and data, and principles of operation for the Modern Musket series rifle.

Section I. GENERAL INFORMATION

1-1 SCOPE

- 1. Type of Manual - End Use and Maintenance
- 2. Model Number and Equipment name - Modern Musket DI-10P, DI-14, and DI-16 rifles
- 3. Purpose of Equipment - Provides user an offensive/defensive capability with small arms fire

Section II. EQUIPMENT DESCRIPTION AND DATA

1-2 EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

A. Characteristics

- | | | | |
|----|-------------------|----|---------------|
| a. | Light weight | d. | Magazine-fed |
| b. | Air-cooled | e. | Semiautomatic |
| c. | Direct-impingment | | |

B. Capabilities

Provides user an offensive and/or defensive capability to engage targets with direct small-arms fire.

C. Features

1. The Modern Musket series is a rifle offering designed to provide the customer with the highest quality product and functionality available for any AR-15 platform-type carbines and rifles.
2. Receivers are made of T7075 Forgings that ensure safety, durability, and function of the rifles while keeping weight and cost at a minimum.
3. The handguard system features the VLTOR KeyMod System which comes standard with two 2” sections of 1913 rail as well as a continuous 1913 top rail.
4. It operates using a direct impingement system with a low-profile gas block to fit under the free-floating handguard. The DI-14 uses a carbine length gas system, the DI-16 uses a mid-length gas system, and the DI-10p uses a pistol length.
5. Chromoly steel, Arcor® salt bath treated, button rifled barrels deliver unmatched accuracy and performance.

1-3 LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

(See Figure 1.1)

1. **MAGAZINE** 30 round capacity.
2. **BOLT CARRIER GROUP (BCG)** Carries bolt assembly to chamber and fires the weapon. Contains the bolt, firing pin, cartridge extractor, cartridge ejector, firing pin retaining pin, bolt return spring and bolt cam pin.
3. **CHARGING HANDLE ASSEMBLY** Provides a means of charging the weapon.
4. **UPPER RECEIVER AND BARREL ASSEMBLY** Upper receiver contains: ejection port, ejection port cover, housing for key, BCG and bolt assembly, and Picatinny rail. Rifle barrel assembly is air-cooled, contains the trunnion, gas block, handguard, compensator or flash hider, and QD sling swivel points.
5. **LOWER RECEIVER AND BUTTSTOCK ASSEMBLY** Lower receiver contains the trigger assembly, hammer assembly, selector lever, rifle grip, bolt catch, magazine catch, and buttstock assembly. The buttstock assembly houses the action spring, buffer assembly, and buffer tube (receiver extension).

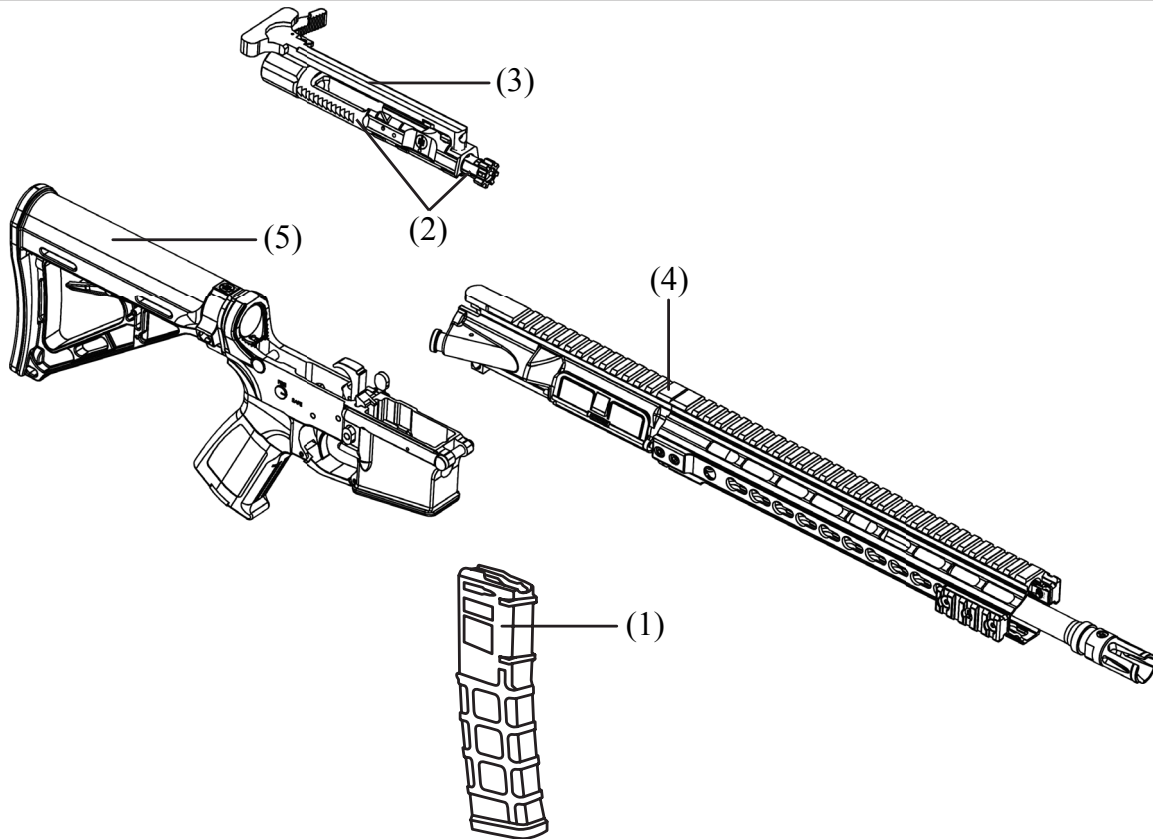


Figure 1.1

1-4 EQUIPMENT DATA

	US CUSTOMARY	METRIC
WEIGHT		
DI-10P, .223 Wylde without magazine	6 lbs	2.7 kg
DI-14, .223 Wylde without magazine	6 lbs, 4 oz	2.8 kg
DI-16, .223 Wylde without magazine	6 lbs, 12 oz	3.1 kg
OVERALL LENGTH		
DI-10p with compensator, buttstock closed	27 in	68.6 cm
DI-14 with compensator, buttstock closed	31.4 in	79.8 cm
DI-16 with compensator, buttstock closed	33 in	83.8 cm
BARREL LENGTH		
DI-10p	10.75 in	27.3 cm
DI-14	14.5 in	36.8 cm
DI-16	16 in	40.6 cm
MECHANICAL FEATURES		
Rifling	Right-hand twist, 6 groove, 1 turn in 8 inches (20.32 cm)	
Method of Operation	Direct Impingement	
Type of Breaching Mechanism	Rotating bolt	
Method of Feeding	Magazine	
Cooling	Air	
Trigger Pull	5.5 - 7.5 lbs	2.5 - 3.4 kg

	US CUSTOMARY	METRIC
FIRING CHARACTERISTICS		
DI-10p, .223 Wylde Muzzle Velocity	2654 ft/sec	808.9 m/sec
DI-14, .223 Wylde Muzzle Velocity	2915 ft/sec	888.5 m/sec
DI-16, .223 Wylde Muzzle Velocity	2993 ft/sec	912.3 m/sec
MAXIMUM RATE OF FIRE		
DI-10p, .223 Wylde		
Semiautomatic	45 rds/min	
Maximum Range, Point Target	328 yds	300 m
Maximum Range, Area Target	437 yds	400 m
DI-14, .223 Wylde		
Semiautomatic	45 rds/min	
Maximum Range, Point Target	547 yds	500 m
Maximum Range, Area Target	656 yds	600 m
DI-16, .223 Wylde		
Semiautomatic	45 rds/min	
Maximum Range, Point Target	547 yds	500 m
Maximum Range, Area Target	656 yds	600 m

Section III. PRINCIPLES OF OPERATION

1-5 GENERAL

The Modern Musket DI series:

1. Is direct impingement (DI) operated and fires in the semiautomatic mode.
2. Has positive locking of the bolt. Firing pin is part of the bolt carrier assembly and cannot strike the primer until the bolt assembly is fully locked forward.

1-6 PRINCIPLES OF OPERATION

See Figure 1.2:

1. MAGAZINE Holds loaded rounds ready for feeding as well as quick reload capabilities for sustained firing.
2. BOLT CARRIER GROUP Provides stripping, chambering, locking, firing, extraction, and ejection of cartridges using the propelling gases that exert pressure.
3. MODERN MUSKET DI UPPER RECEIVER AND BARREL ASSEMBLY Provides support for the bolt carrier assembly. The barrel chambers the cartridge for firing and directs the projectile.
4. LOWER RECEIVER AND BUTTSTOCK ASSEMBLY Provides firing control for the rifle and carbine.
5. CHARGING HANDLE ASSEMBLY Provides initial charging of the weapon. The handle latch locks the charging handle assembly in the forward position during operation.

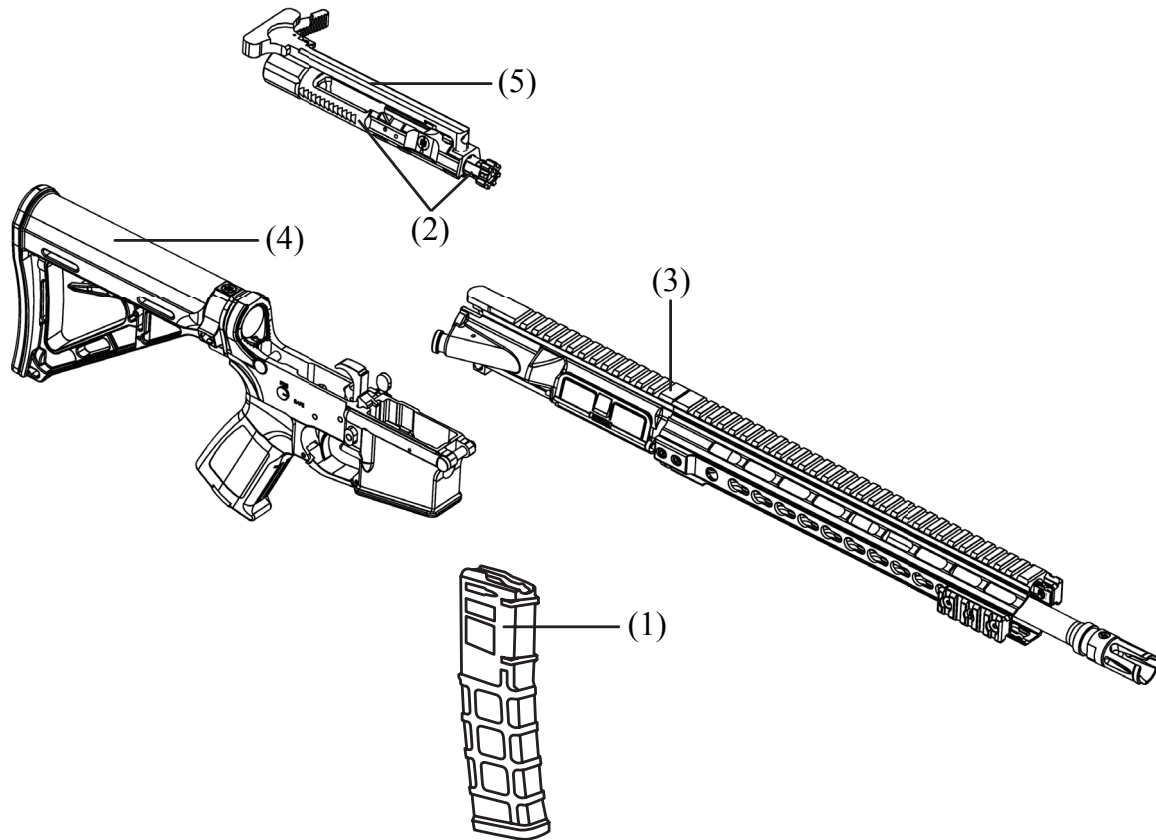


Figure 1.2

CHAPTER 2

END USER MAINTENANCE INSTRUCTIONS

CHAPTER OVERVIEW

This chapter provides information and instructions to help keep the rifle in good repair and contains the following sections:

- Section I. Repair Parts and Support Equipment
- Section II. Service Upon Receipt
- Section III. Preventive Maintenance Checks and Services (PMCS)
- Section IV. Troubleshooting
- Section V. Maintenance Procedures

Section I. REPAIR PARTS AND SUPPORT EQUIPMENT

2-1 COMMON TOOLS AND EQUIPMENT

All tools needed for end user maintenance will be supplied with purchase of rifle. If any further assistance is needed, always contact PWS customer service support team at customerservice@primaryweapons.com or call (208) 780-6122.

2-2 SPECIAL TOOLS AND SUPPORT EQUIPMENT

There are no special tools required for end user maintenance.

Section II. SERVICE UPON RECEIPT

2-3 GENERAL

1. Inspect the rifle for any damage incurred during shipment. If rifle has been damaged, report the damage immediately to PWS Customer Service. Email customerservice@primaryweapons.com or call (208) 780-6122.
2. Check the rifle and corresponding serial numbers against the packing slip to see if shipment is complete.

2-4 SERVICE UPON RECEIPT OF MATERIAL

WARNING

Before starting an inspection, be sure to clear the rifle. Do not actuate the trigger before clearing the rifle. Inspect the chamber to make sure it is empty and free of obstructions. Check to see there are no obstructions in the barrel and no ammunition is in position to be chambered.

LOCATION	ITEM	ACTION	REMARKS
1. Container	a. Modern Musket DI Rifle	a. Remove from containers b. Inspect the equipment for damage during shipment c. Check the equipment against the packing list to see if the shipment is complete	If damage is found, contact Customer Service immediately. If discrepancy found, contact Customer Service immediately.
	b. Basic Issue Items	Check for missing items	If discrepancy is found, contact Customer Service immediately.
2. Modern Musket DI Rifle	a. Barrel Assembly	If volatile corrosion inhibitor (VCI) is in barrel, remove and discard	
	b. All Parts	a. Field-strip rifle and inspect for missing, damaged, rusted parts b. Clean and lubricate c. Reassemble d. Function check e. Check to see whether the equipment has been modified	
	c. Magazine	Check for positive retention and functioning of bolt catch	If discrepancy is found, contact Customer Service immediately.

Section III. PREVENTATIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-5 GENERAL

This section contains the procedures and instructions necessary to perform unit preventive maintenance checks and services. These services are to be performed by the end user with the assistance of a qualified gunsmith using genuine PWS parts where practical; or by contacting PWS customer service directly at customerservice@primaryweapons.com or (208) 780-6122.

2-6 PREVENTATIVE MAINTENANCE CHECKS AND SERVICES

WARNING

Before starting an inspection, be sure to clear the rifle. Do not pull the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and no ammunition is in position to be chambered. Do not keep live ammunition near the work area.

1. **General** - The PMCS procedures are contained in the following table. They are arranged in logical sequence requiring a minimum amount of time on the part of the persons performing them
2. **Item No. Column** – Checks and services are numbered in disassembly sequence.
3. **Interval Column** – This column gives the designated interval when each check should be performed.
4. **Item To Be Checked Or Serviced Column** – This column lists the items to be checked or serviced.
5. **Procedure Column** – This column contains a brief description of the procedure by which the check is to be performed. It contains all the information required to accomplish the checks and services. Information marked SH Indicates a specific equipment shortcoming and the procedure needed to correct the shortcoming.
6. **Not Fully Mission Capable If: Column** - This column contains a brief statement of the condition (e.g., malfunction, shortage) that would cause the covered equipment to be less than fully ready to perform its assigned mission.

NOTE

An inactive weapon is a weapon which has been stored for a period of 90 days or more without use. Inactive weapons shall receive quarterly PMCS unless inspection reveals more frequent servicing is necessary.

Normal cleaning (PMCS) of an inactive weapon will be performed every 90 days. If the user finds corrosion on a weapon prior to the end of the 90-day period, the PMCS should be performed immediately.

ITEM NO.	INTERVAL	ITEMS TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
1.	Quarterly	Charging Handle Assembly and Selector Lever	Pull charging handle (Fig. 2.1, 1) to rear. Ensure chamber is clear. Let bolt carrier assembly (2) close. Leave hammer in cocked position. Do not pull trigger.	Charging handle does not lock in place when in the forward position.

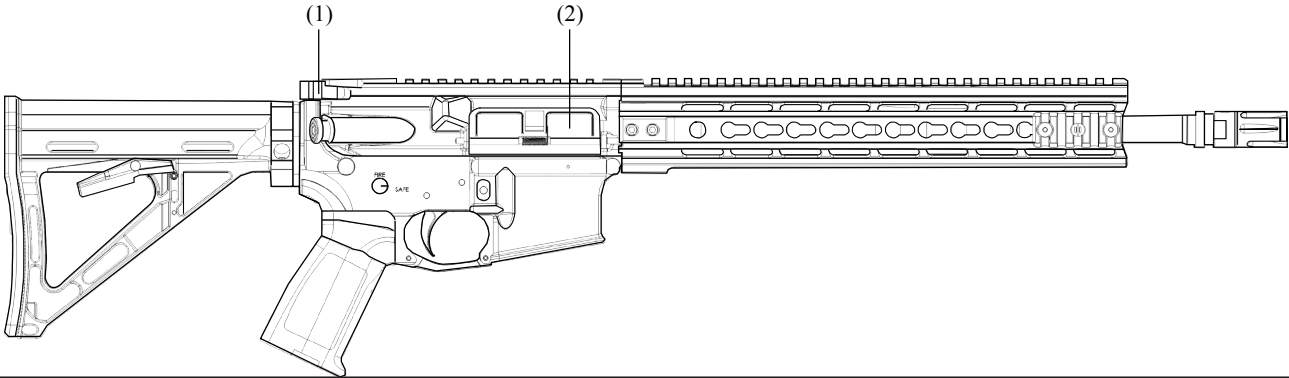


Figure 2.1

ITEM NO.	INTERVAL	ITEMS TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
1.	Quarterly	Charging Handle Assembly and Selector Lever (cont.)	<p>Place selector lever (Fig. 2.2) in SAFE (1) position. Pull trigger.</p> <p>Place selector lever in FIRE (2) position. Pull trigger.</p> <p>Hold trigger to the rear, charge weapon, and release the trigger with a slow, smooth motion, without hesitation or stopping, until the trigger is full forward (an audible click should be heard).</p> <p>Repeat the above FIRE position test five times.</p>	<p>Hammer falls.</p> <p>Hammer does not fall.</p> <p>The weapon malfunctions during any of these five tests.</p>

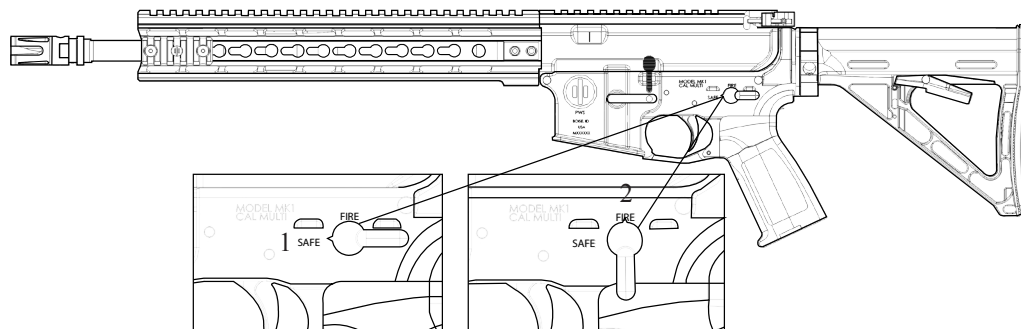


Figure 2.2

ITEM NO.	INTERVAL	ITEMS TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
1.	Quarterly	Charging Handle Assembly and Selector Lever (cont.)	With hammer in forward position, using moderate finger/thumb pressure, attempt to place the selector lever (Fig. 2.2, 1) in SAFE position.	Moderate finger/thumb pressure moves selector lever to SAFE position.
2.	Quarterly	Upper Receiver and Barrel Assembly (Handguard Assemblies)	<p>Inspect handguard assembly (Fig. 2.3, 1) for cracks and/or other damage. Dings and dents are acceptable in rails providing they do not prohibit attaching accessories to the picatinny rails, or KeyMod slots.</p> <p>Release takedown pins to open and separate upper and lower receiver. Hand check the muzzle device (3) for looseness on the barrel. Hand check barrel (2) for looseness on the upper receiver (4).</p>	<p>Rails are missing or unserviceable.</p> <p>Muzzle device or barrel is loose.</p>

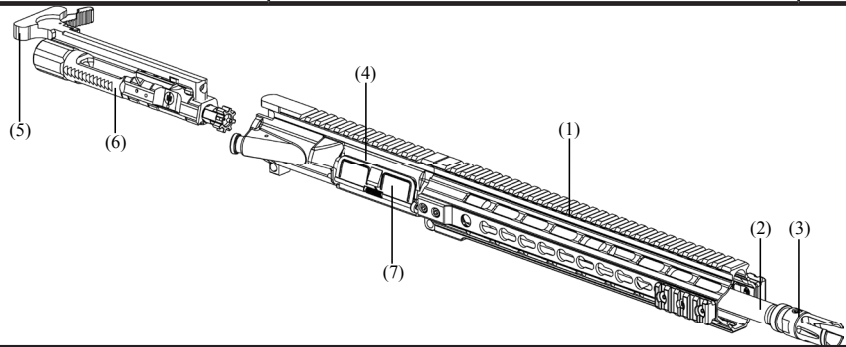


Figure 2.3

ITEM NO.	INTERVAL	ITEMS TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
3.	Quarterly	Upper Receiver and Barrel Assembly (Serviceability Check)	<p>Check charging handle (Fig. 2.3, 5) and ejection port cover (7) for defects and proper function.</p> <p>Inspect upper receiver (4) finish for scratches or worn shiny spots. If shiny or worn spots are visible, repair in accordance with unit SOP.</p> <p>With one hand, position the complete upper (1, 4) so that the muzzle (3) is pointing down at approximately a 40-degree angle. Pull the charging handle (5) rearward. Holding the bolt carrier group (BCG) (6) to the rear, push the charging handle (5) forward. Release the BCG (6).</p> <p>BCG should close and lock under its own weight. If it does not, remove the bolt assembly (Fig. 2.4, 1) from the bolt carrier (6) and slide the bolt carrier and charging handle (Fig. 2.3, 5) back into the receiver (4). If carrier (6) seems to drag in the receiver, clean and lube as necessary.</p>	<p>Charging handle (Fig. 2.3, 5) is defective.</p> <p>Cleaning and lubrication does not correct malfunction.</p>

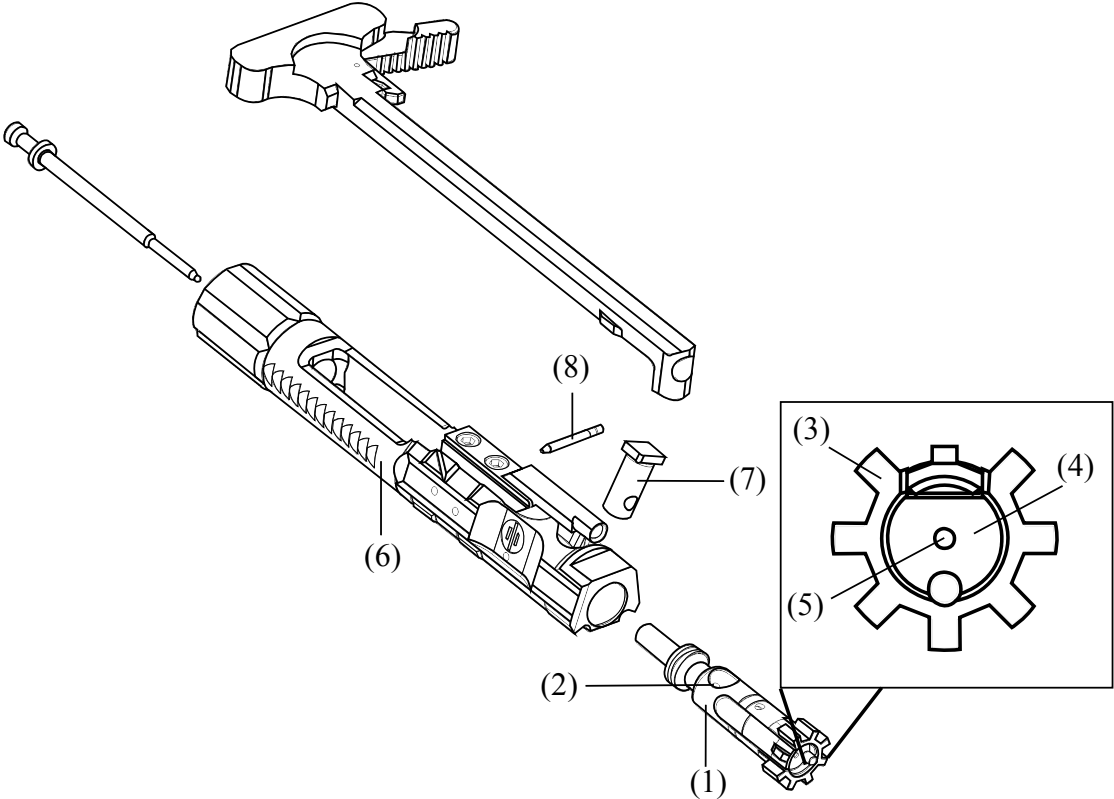


Figure 2.4

ITEM NO.	INTERVAL	ITEMS TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
4.	Quarterly	Key and Bolt Carrier Group (BCG) and Bolt Assembly (Serviceability Check)	<p>Remove BCG and disassemble. Visually inspect bolt assembly (Fig. 2.4, 1) for cracks, especially in the area of the bolt cam pin hole (2). Check for cracks on locking lugs (3), for a cluster of pits or chipped bolt face (4) and for an elongated firing pin hole (5). If cracked or broken, contact PWS Customer Service.</p> <p>Insert the bolt assembly (1) into the key and BCG (6) so the bolt assembly points down. The bolt assembly should move and slide freely in the BCG. Inspect bolt cam pin (7) for damage or excessive wear. Ensure firing pin retaining pin (8) is structurally sound.</p>	<p>Defects are found.</p> <p>Missing or broken firing pin retaining pin or bolt cam pin.</p>
5.	Quarterly	Bolt Assembly and BCG (Serviceability Check)	<p>Check extractor (Fig. 2.5, 1), extractor spring assembly (2), ejector (3) and ejector spring (4) for dirt and serviceability. If dirty, clean, lubricate and reassemble. If unserviceable, replace as necessary.</p> <p>Check BCG (5) and carrier key for excess wear, cracks or other damage. Ensure carrier key screws (6) are tight and staked. Check firing pin (7) for pits or breaks. If damaged, replace firing pin.</p>	<p>Parts are missing or unserviceable.</p> <p>Missing or broken firing pin retaining pin or bolt cam pin or firing pin is damaged.</p>

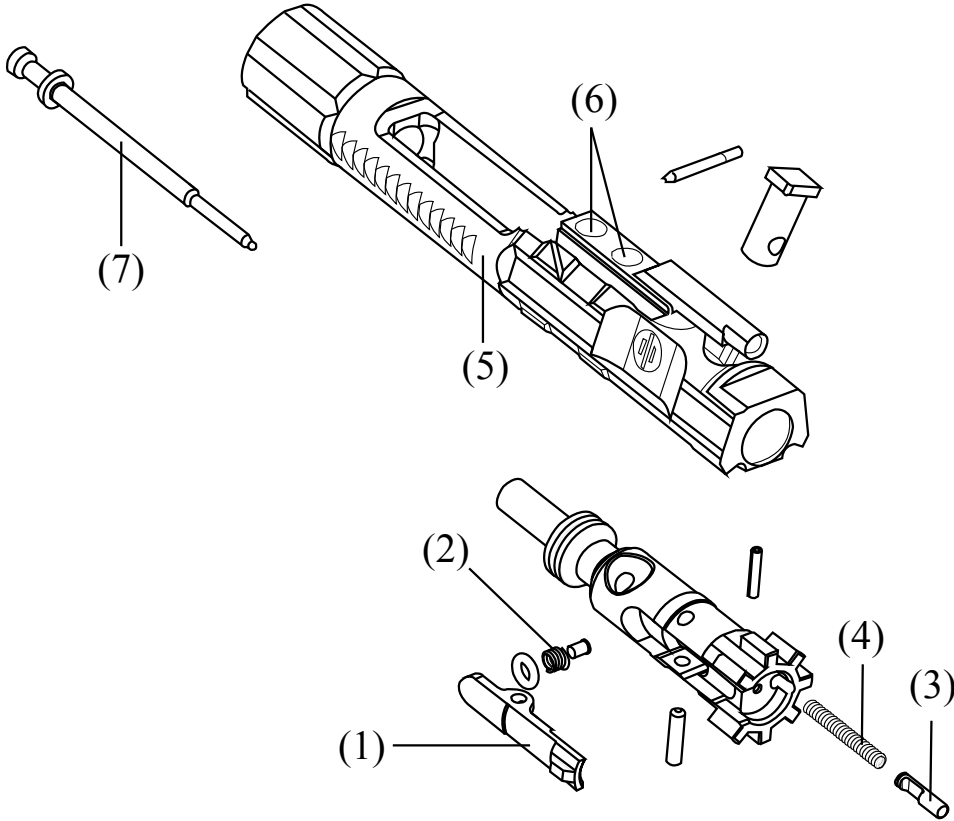


Figure 2.5

ITEM NO.	INTERVAL	ITEMS TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
6.	Quarterly	Lower Receiver and Buttstock Assembly (Serviceability Check)	<p>Remove buffer assembly (Fig. 2.6, 1) and action spring (2). Check buffer assembly for cracks.</p> <p>Check action spring (2) for kinks and free length. Free length should be 10 9/16 inches (26.83 cm) minimum to 11 inches (27.9 cm) maximum. Do not attempt to adjust spring length.</p> <p>Disengage takedown pin (3) and pull out. Push back in to re-engage takedown. An audible click should be heard.</p> <p>Lubricate helical compression spring and takedown pin detent (4) by placing one drop of lubricant in the channel at the rear of the takedown pin. Allow the lubricant to work its way around the pin detent and spring (3).</p> <p>Check buffer tube (5) and buttstock assembly (6) for damage.</p>	<p>Buffer assembly is cracked.</p> <p>Spring is kinked or does not meet free length requirements.</p> <p>Components are defective or damaged.</p> <p>Components are damaged.</p> <p>The buffer tube or buttstock is cracked or otherwise defective.</p>

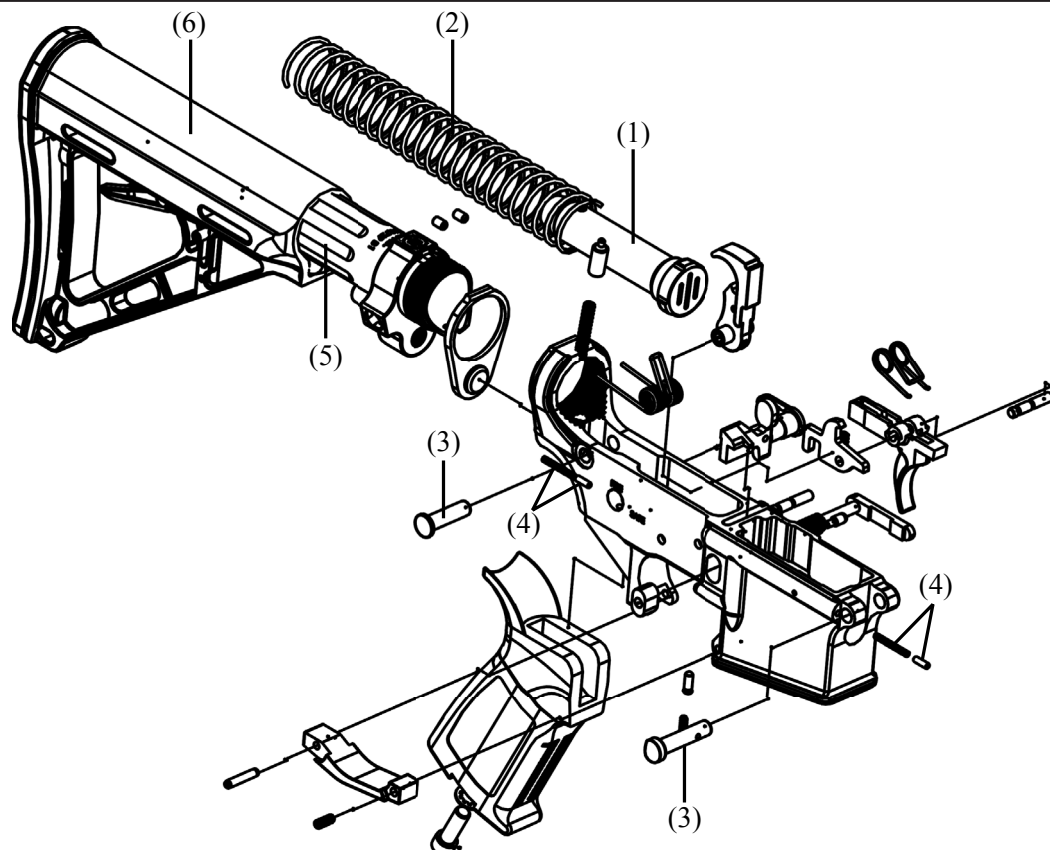


Figure 2.6

Section IV. TROUBLESHOOTING

2-7 GENERAL

1. This section contains troubleshooting information for locating and correcting most of the operating troubles which may develop in the Modern Musket DI Series rifle. Each malfunction for the individual part or assembly is followed by a list of tests or inspections which will help you to determine the corrective actions in the order listed. If you have any further questions always contact PWS customer service.
2. This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, see individual repair sections in the maintenance procedures on each major assembly.

2-8 TROUBLESHOOTING PROCEDURES

Refer to troubleshooting table for malfunctions, tests, and corrective actions. The symptom index (page 44) is provided for a quick reference of the malfunctions covered in the table.

SYMPTOM INDEX	
	Page
Failure of Magazine to Lock in Rifle	45
Failure to Feed	45
Failure to Chamber	46
Failure to Lock	46
Failure to Fire	51
Failure to Unlock	52
Failure to Extract	52
Failure to Eject	52
Failure to Cock	52
Short Recoil	54
Rifle Cannot be Zeroed	54
Fires Two Rounds with One Pull of Trigger	54
Fires with Selector Lever on SAFE or when Trigger is Released with Selector Lever on SEMI	54
Bolt Assembly Fails to Lock to Rear after Firing Last Round	55

TROUBLESHOOTING PROCEDURES

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. FAILURE OF MAGAZINE TO LOCK IN RIFLE	1. Dirty or corroded magazine catch (Fig. 2.7, 1)	Disassemble and clean
	2. Defective magazine catch spring (2)	Replace spring
2. FAILURE TO FEED	3. Worn or broken magazine catch (1)	Replace magazine catch
	4. Worn or defective magazine	Replace magazine
2. FAILURE TO FEED	1. Magazine catch spring weak or broken	Replace spring
	2. Magazine catch (Fig. 2.7, 1) defective	Replace magazine catch
2. FAILURE TO FEED	3. Magazine catch (1) out of adjustment (will not retain magazine)	Adjust magazine catch
	4. Short recoil	Refert to page

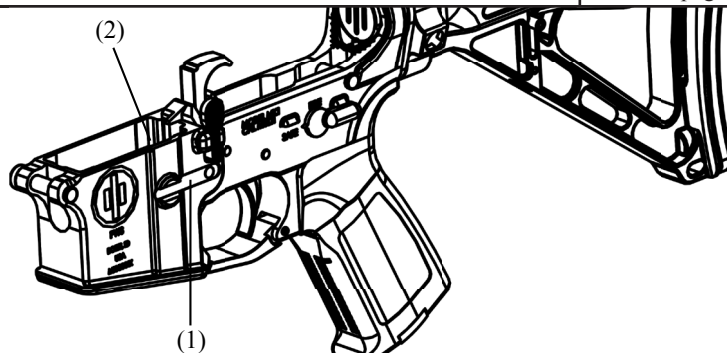


Figure 2.7

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
3. FAILURE TO CHAMBER		
	1. Weak or broken action spring (Fig. 2.8, 1)	Replace spring
	2. Short recoil	Refer to page 54
	3. Dirty or obstructed chamber	Clean chamber with mil-spec chamber brush
4. FAILURE TO LOCK		
	1. Weak or broken action spring (Fig. 2.8, 1)	Replace spring
	2. Bolt cam pin (Fig. 2.9, 1) missing	Replace bolt cam pin
	3. Loose or damaged bolt carrier key (2)	Tighten and re-stake carrier key or replace as necessary

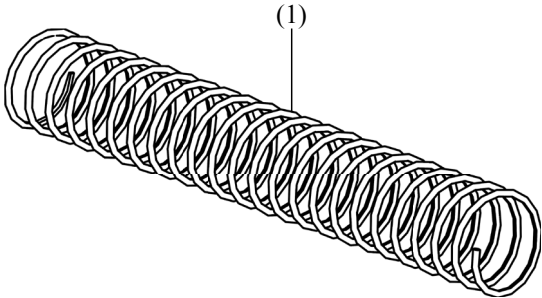


Figure 2.8

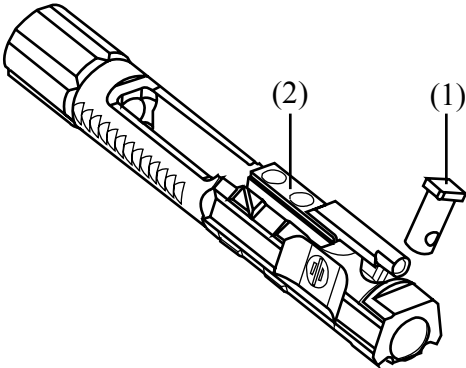


Figure 2.9

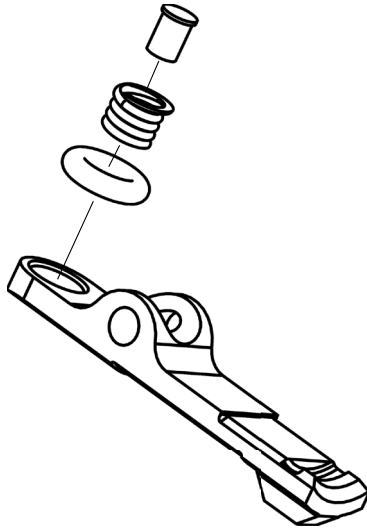
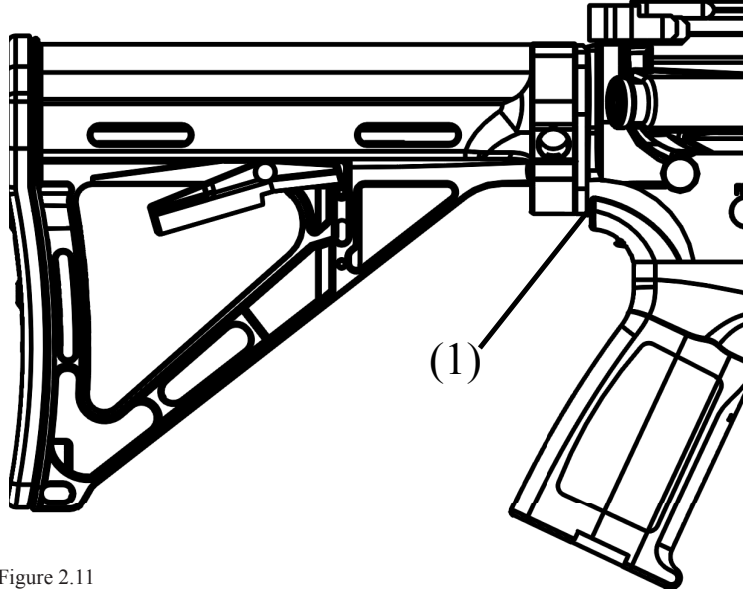
MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
4. FAILURE TO LOCK (cont.)		
	<div>3. Improperly assembled extractor spring assembly (Fig. 2.10, 1)</div> <div>5. Buffer tube is out of alignment (applicable only to weapons using PWS EBT)</div> <div>EBT)</div> <div>Space between buffer tube and tension plate (Fig. 2.11, 1) should be parallel</div>	<div>Relieve tension on the bottom screw and re-adjust buffer tube by unscrewing bottom screw and tightening the two top screws. Retighten the bottom screw (Fig. 2.11, 6)</div>
		

Figure 2.10

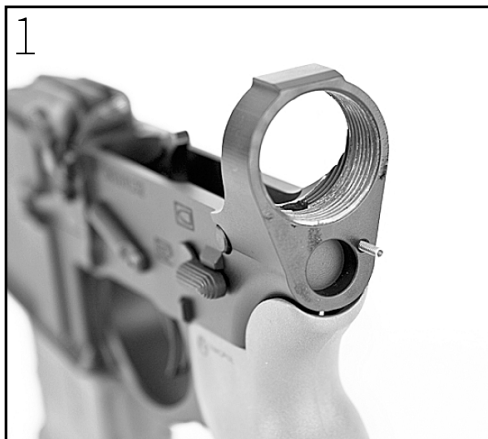
Figure 2.11

PWS ENHANCED BUFFER TUBE INSTALLATION INSTRUCTIONS

NOTE

The PWS Enhanced Buffer Tube should be installed by a professional. PWS will not refund or replace buffer tubes damaged by improper installation.

1. With the receiver in the state shown, ensure that the rear take-down pin, detent pin and spring are installed in your lower receiver.
2. With the buffer tube plate over the buffer tube threads and nub facing out (the male end of the plate facing the female end of the receiver) align the buffer tube with the back of the receiver.
3. With the fingers of one hand wrapped around the receiver holding the plate in place and ensuring the detent spring is depressed correctly (not bent over one direction or another) screw the buffer tube in clockwise from the rear.



2-8.6 TROUBLESHOOTING PROCEDURES

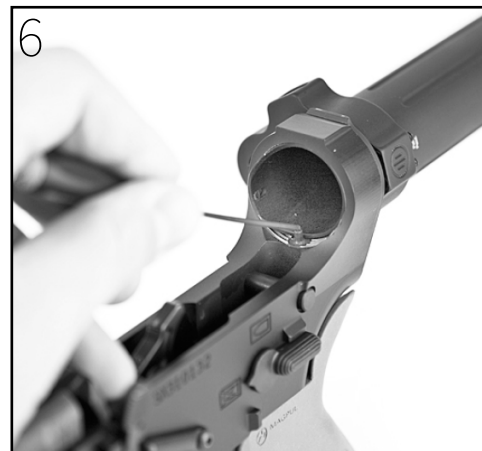
4. When the lip of the buffer tube is near the buffer retainer hole, insert the buffer retaining spring and buffer retainer into the hole. Ensure that the buffer plate does not move out of the rear receiver hole and detent spring does not come out.



5. Push the buffer retainer into the hole far enough so that the buffer tube can be rotated over the outside edge of it. You may be able to get an additional revolution before the buffer tube is tight against the receiver. Ensure that the buffer retainer does not fly out of the receiver when you rotate the buffer around again.



6. Using a screwdriver or other wrench, push the buffer retainer down far enough to that the buffer tube can rotate over the top of it.



7. The buffer tube is properly installed when the extended portion of the buffer tube is on the bottom and the PWS symbol is on top. Some buffer/receiver combinations will result in a space being left between the buffer plate and the buffer. This is normal.



8. Tighten the top two screws first using the supplied wrench. The screws are tight when the wrench flexes as shown above. A small amount of blue Loctite ® can be used, but is not required.



9. Tighten the bottom screw using the supplied wrench until snug. The bottom screw should be tightened approximately ¼ turn after making positive contact with the plate.



MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
5. FAILURE TO FIRE	<ol style="list-style-type: none"> 1. Broken or chipped firing pin (Fig. 2.12, 1) 2. Fire control group (2) and/or lower receiver assembly (3) improperly assembled or damaged 3. Broken, defective, or missing firing pin retaining pin (4) 4. Selector lever (5) frozen on safe position. 	<p>Replace firing pin</p> <p>Repair or replace</p> <p>Replace</p> <p>Disassemble, clean, reassemble or replace defective components</p>

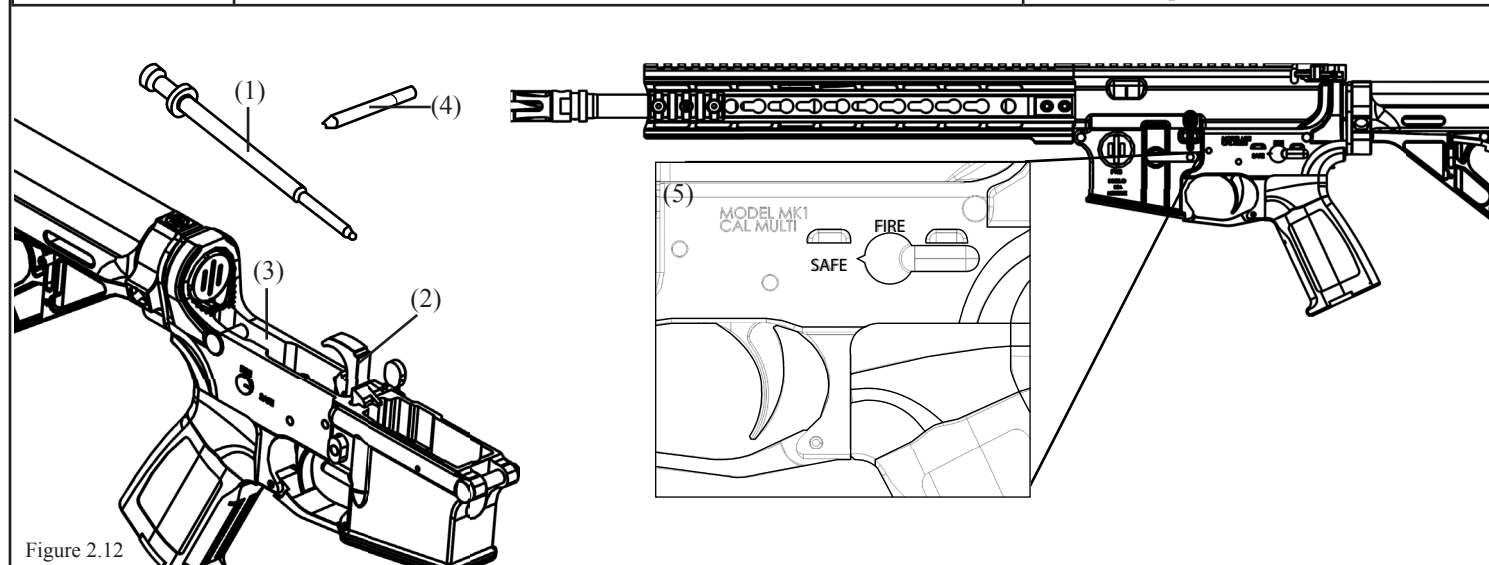


Figure 2.12

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
6. FAILURE TO UNLOCK	1. Burred locking lugs (Fig. 2.13, 1)	Contact PWS Customer Service
	2. Burred lugs (2) on barrel extension	Contact PWS Customer Service
	3. Short recoil	Refer to page 54
	4. Debris or fouling in chamber	Clean chamber with copper cleaner or honing tool
7. FAILURE TO EXTRACT	1. Defective components in bolt assembly	Contact PWS Customer Service
	2. Short recoil	Refer to page 54
8. FAILURE TO EJECT	1. Defective components in bolt assembly	Contact PWS Customer Service
	2. Ejector (Fig. 2.1, 3) stuck in bolt body	Disassemble and Clean
	3. Short recoil	Refer to page 54
9. FAILURE TO COCK	1. Worn, broken or missing parts of fire control group	Contact PWS Customer Service
	2. Short recoil	Refer to page 54

2-8.10 TROUBLESHOOTING
PROCEDURES

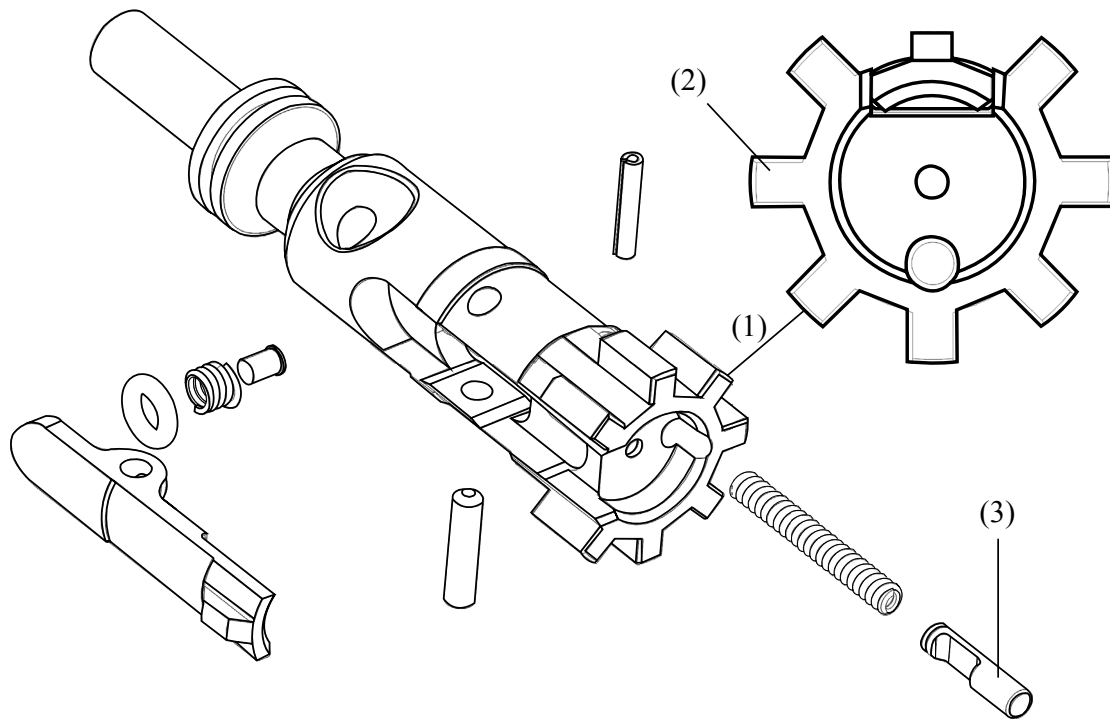


Figure 2.13

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
10. SHORT RECOIL/SHORT STROKING	<ol style="list-style-type: none"> 1. Broken or damaged action spring 2. Un-lubricated or dirty action spring and/or receiver extension (buffer tube) 3. Improper buffer weight (buffer is too heavy) 4. Buffer tube is out of alignment (applicable only to weapons using the PWS EBT) <div>Space between buffer tube (Fig. 2.14, 1) and tension plate should be parallel</div> 6. Out-of-spec ammunition 	<p>Replace action spring</p> <p>Clean and lubricate</p> <p>Replace buffer with standard carbine buffer</p> <p>Relive tension and readjust buffer tube by unscrewing bottom screw (Fig. 2.17, 2)</p> <p>Refer to page 48 for installation instructions</p> <p>Replace ammunition</p>
	11. RIFLE CANNOT BE ZEROED	<ol style="list-style-type: none"> 1. Misalignment of handguard (Fig. 2.14, 3) <p>Contact PWS Customer Service or replace barrel</p>
12. FIRES TWO ROUNDS WITH ONE PULL OF THE TRIGGER WITH SELECTOR ON SEMI (DOUBLE FIRING)	<ol style="list-style-type: none"> 1. Perform function test (refer to page 74) 	<p>If any part of function test fails, replace fire control group</p>
	13. FIRES WITH SELECTOR LEVER ON SAFE OR WHEN TRIGGER IS RELEASED WITH SELECTOR ON SEMI	<ol style="list-style-type: none"> 1. Worn, broken or missing parts fo fire control group <p>Replace fire control group</p>

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
14. BOLT ASSEMBLY FAILS TO LOCK TO REAR AFTER FIRING LAST ROUND		
	1. Magazine worn or broken	Replace magazine
	2. Magazine catch spring weak or broken	Replace magazine
	3. Broken bolt catch and/or spring	Replace bolt catch and/or spring

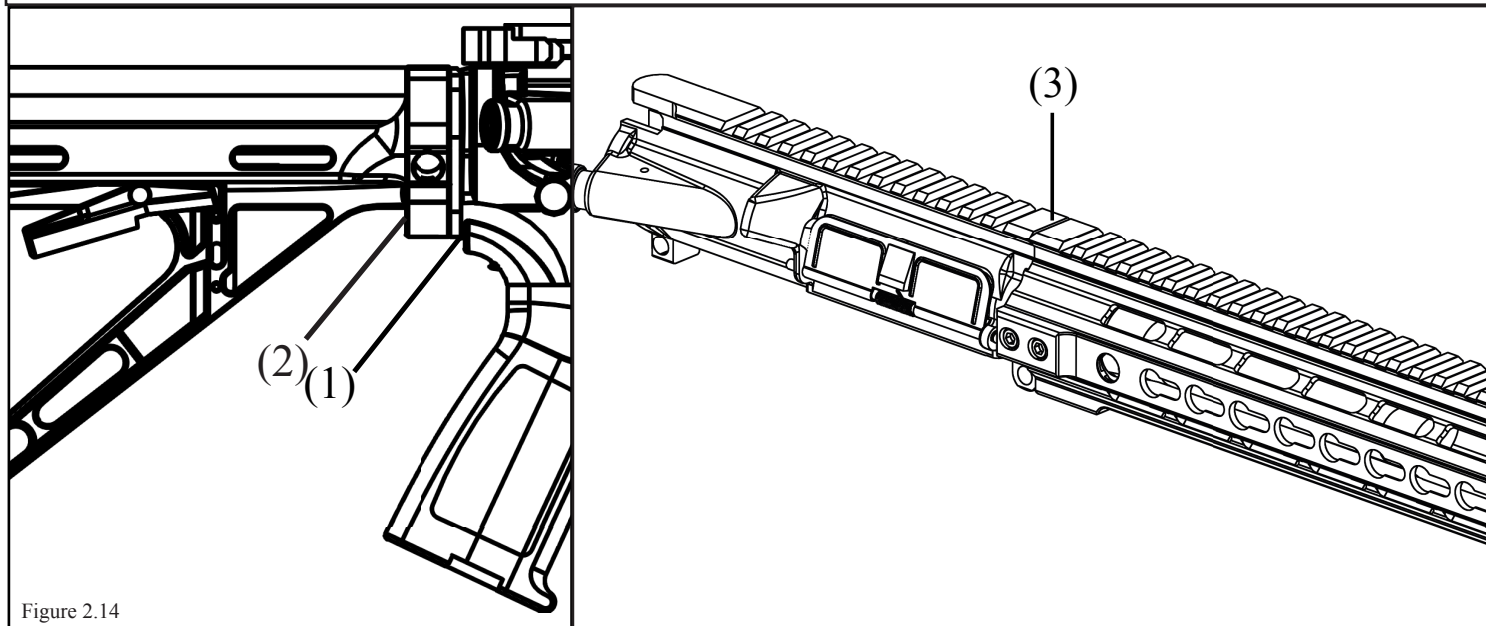


Figure 2.14

Section V. MAINTENANCE PROBLEMS

2-9 INITIAL SETUP

The following information will reduce the space required for the initial setup portion of the maintenance procedures.

1. Materials/Parts required are not listed unless they apply to the procedure
2. The normal standard equipment condition references the manner in which the assembly remains from the previous step in the assembly or disassembly process. Equipment condition is not listed unless some other condition is required.

2-10 LUBRICATION GENERAL

1. PWS uses and recommends the Gun-Ease line of cleaning products. PWS has assembled an example cleaning kit specifically for the Modern Musket DI series rifles and uppers. See appendix A in this manual.
2. Whenever the term cleaner, lubricant, preservative (CLP) or the words Gun-Ease, lubricant, lube, LSA or LAW are cited in this manual, they can be interpreted as any commercially available product that falls within the required parameters of the particular application. Substitutions can be utilized as applicable as long as they adhered to the following:
3. Do not use water based lubricants when the temperature is at or below freezing (32°F). Under all but cold weather conditions, CLP or other such lubricants can be used as long as they are designed to operate in the conditions in which they are being deployed.
4. Use the lubricant LAW during cold arctic conditions, +10°F (-12°C) and below.
5. Any lubricants may be used from 10°F to + 100°F (-12°C to 38°C).
6. Rifle Bore Cleaner (RBC) may be used to remove carbon buildup in the bore and other portions of the rifle.

The illustration below (Fig. 2.15) shows the only points on the weapon that should be lubricated.

Cleaning/Lubrication Application Interval

Regular cleaning and lubrication intervals should occur every 250 rounds under normal operating conditions. Under adverse environmental or operational conditions, the interval may be increased to ensure proper operation. Reapply lubricant to the operating parts as necessary.

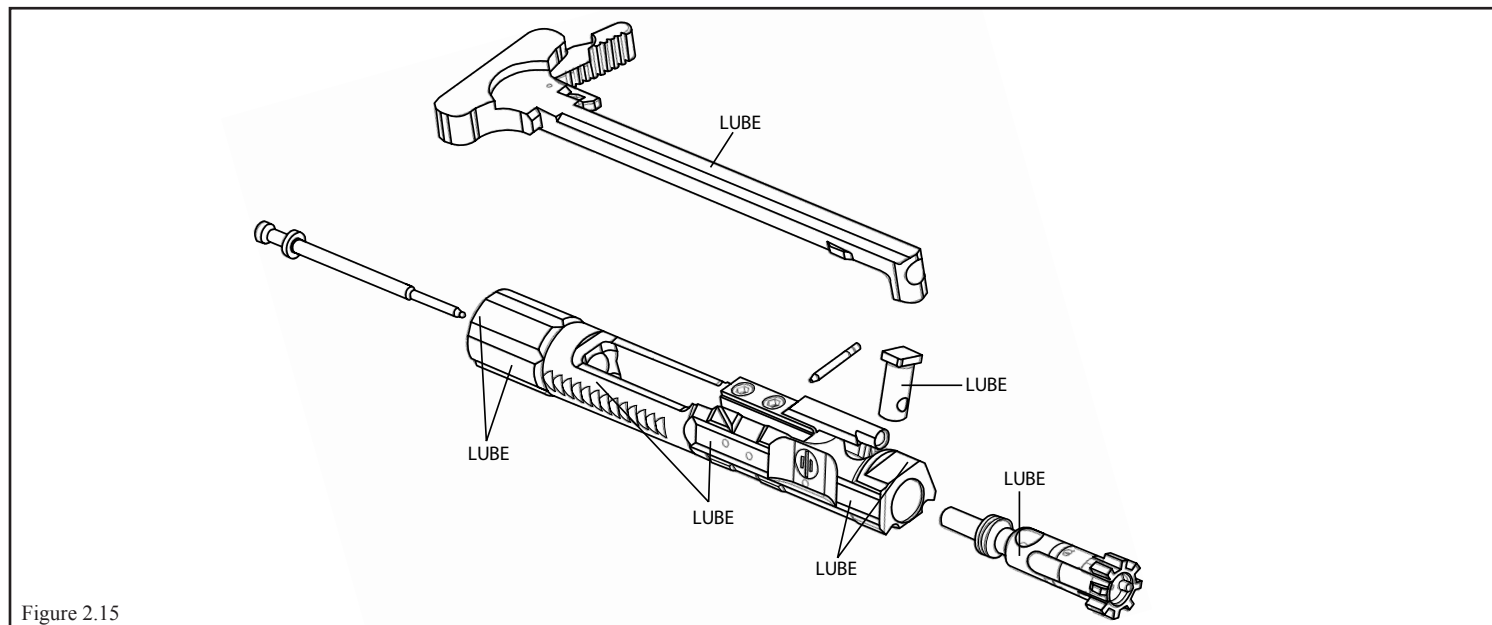


Figure 2.15

2-11 MAJOR COMPONENTS OF MODERN MUSKET DI RIFLES

This task covers Disassembly

INITIAL SETUP:

Equipment conditions

Modern Musket DI rifle assembled

General Safety Instructions

Before starting an inspection, clear the weapon. Do not keep live ammunition near your work area.

To avoid injury to eyes safety glasses should be worn at all times.

Below armorer level maintenance, do not interchange bolt assemblies from one weapon to another.

A. DISASSEMBLY

Remove Magazine (Fig. 2.16, 4), bolt carrier/charging handle assembly (2), and upper receiver and barrel assembly (3) from lower receiver and buttstock assembly (1).

2-11.1 MAJOR COMPONENTS OF
MODERN MUSKET DI RIFLES

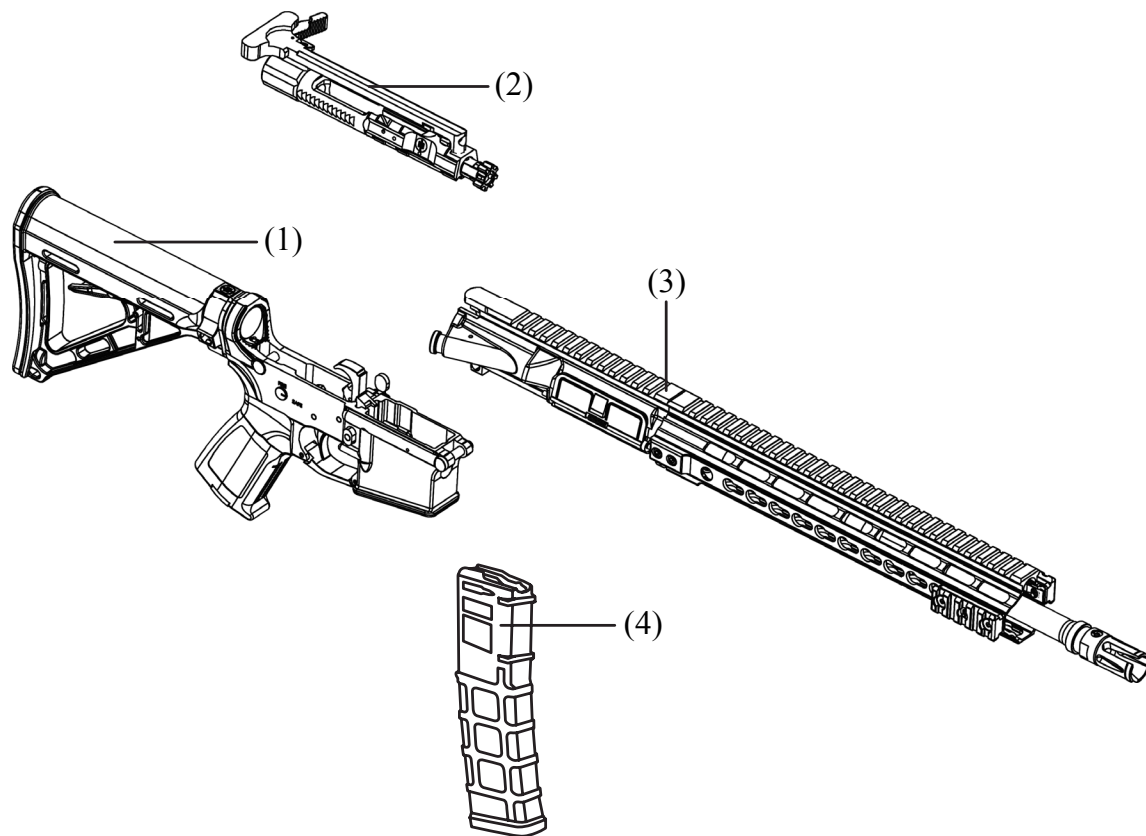


Figure 2.16

2-12 BOLT CARRIER GROUP (BCG)

This task covers:

- | | |
|-----------------------------|-----------------------|
| A. Disassembly | D. Lubrication |
| B. Cleaning | E. Reassembly |
| C. Inspection/Repair | |

INITIAL SETUP:

Tools
No tools necessary

Equipment Conditions
BCG removed

General Safety Instructions
Bolt cam pin must be installed prior to firing to prevent injury or death to personnel.
Do not interchange bolt assemblies from one weapon to another.
If changing out the bolt assembly, checking proper headspace with approved gauges is required.

A. DISASSEMBLY

1. Remove firing pin retaining pin (Fig. 2.17, 1). Tilt BCG (2) and catch firing pin (3) as it drops out.

CAUTION

Do not spread or close legs of firing pin retaining pin (1)

2. Push bolt (Fig. 2.17, 4) to rear and lift bolt cam pin (5) straight up to remove.
3. Remove bolt (4) from BCG (2). Remove spring (6) from bolt.
4. Slide charging handle (6) forward and off of the operating rod to clean or replace.

NOTE

For disassembly of bolt assembly (Fig. 2.17, 4), see page 65.

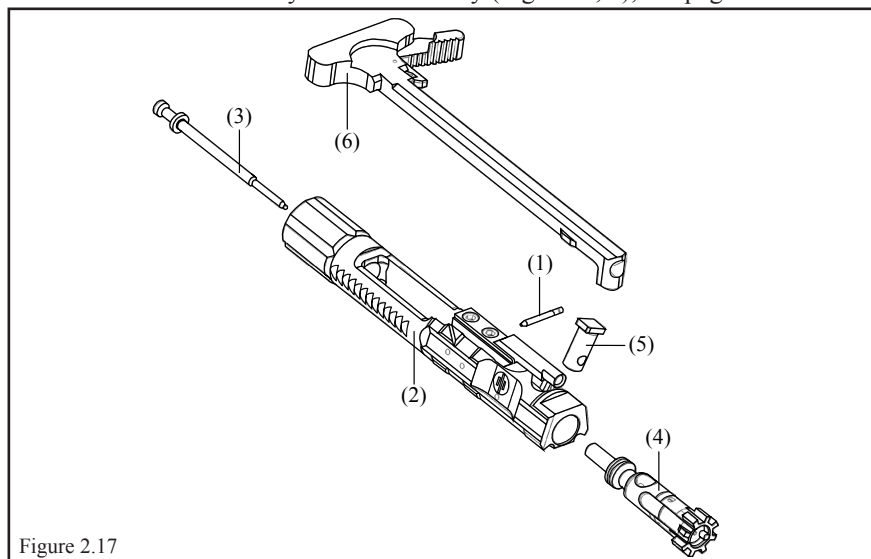


Figure 2.17

B. CLEANING

Clean the bolt and BCG of carbon deposits.

C. INSPECTION/REPAIR

Inspect BCG (Fig. 2.18, 5) as follows:

1. Insert bolt (1) into BCG (2). Bolt should rotate freely.
2. Inspect carrier key (3) for dents, cracks, or looseness. If cracked or loose, repair or replace as necessary.
3. Inspect firing pin retaining pin (4) and bolt cam pin (5) for cracks, damage, or excessive wear. Replace if unserviceable.
4. Inspect firing pin (6) for damage. If tip is chipped, replace as necessary.
5. Inspect BCG (2) for damage or wear. If unserviceable, repair or replace as necessary.
6. Inspect charging handle (7) for cracks or damage. Wear marks in on the charging handle is normal as long as it does not diminish the structural integrity.

D. LUBRICATION

A small amount of lubrication is recommended on the enlarged contact points of the BCG (Fig. 2.18, 2) as well as on bearing surfaces of the bolt (1) and the cam pin (5).

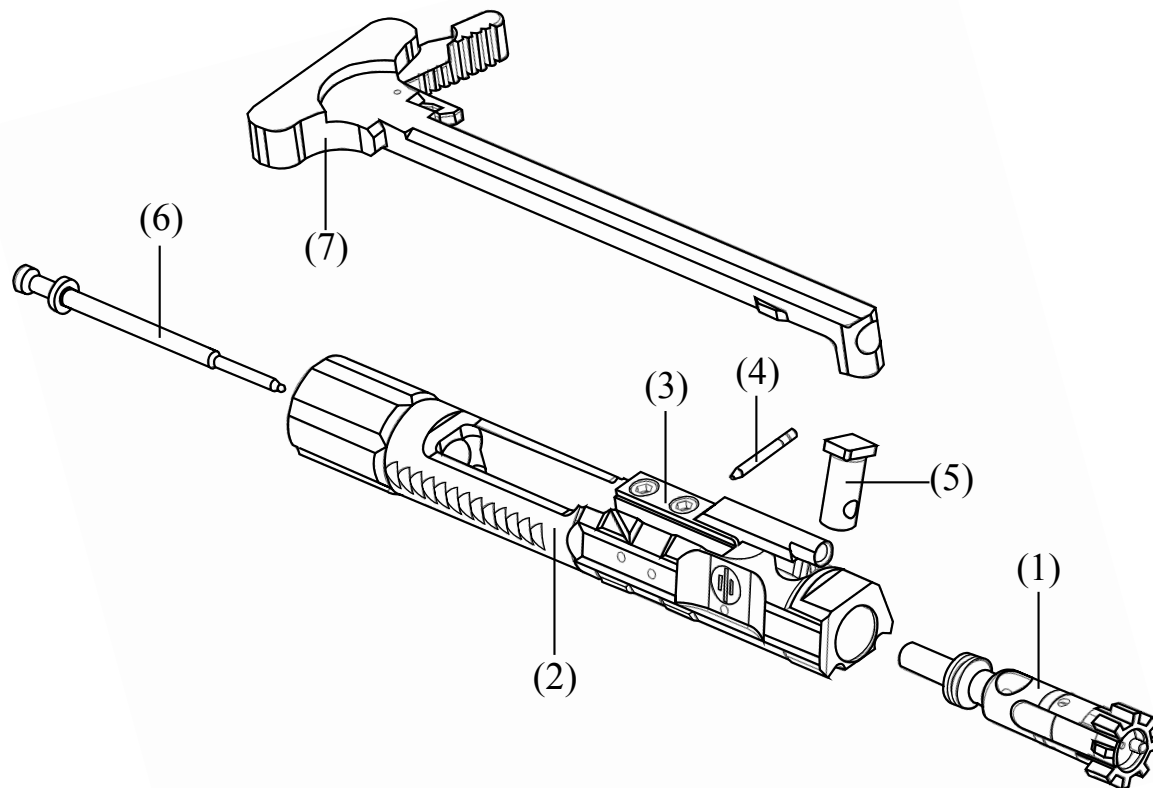


Figure 2.18

E. REASSEMBLY

WARNING

Do not interchange bolt assemblies without checking proper headspace with approved gauges.

Bolt cam pin must be installed or a catastrophic failure will occur while firing the first round. If the bolt cam pin is not installed, injury to, or death of, personnel may result.

1. Insert bolt (Fig. 2.18, 1) back into the front of the carrier (2).
2. Install bolt cam pin (5) and rotate one quarter turn.
3. Hold BCG (2) with bolt assembly (5) down and drop firing pin (6) in through the rear of the carrier (2).
4. Install firing pin retaining pin (4) from left side only to ensure proper installation check for proper installation by holding BCG (2) with bolt assembly (1) up, then attempt to shake out firing pin.
5. Reassemble rifle.

2-13 BOLT ASSEMBLY

This task covers:

- A. Disassembly
- B. Cleaning
- C. Inspection/Repair

- D. Lubrication
- E. Reassembly

INITIAL SETUP:

Tools

No tools necessary

Equipment Conditions

Bolt assembly removed

General Safety Instructions

Do not interchange bolt assemblies without checking proper headspace with approved gauges.

To avoid injury to your eyes, use care when removing and installing spring-loaded parts.

A. DISASSEMBLY

NOTE

Do not separate extractor and extractor spring assembly unless replacement of either or both is required.

Do not remove the rubber insert from the extractor spring assembly.

1. Push out extractor pin (Fig. 2.19, 2) and remove extractor (5) and extractor spring assembly (6) as a unit.
2. If required, twist extractor spring assembly (6) counterclockwise to remove from extractor (5).

CAUTION

Be sure to use vise jaw protective caps.

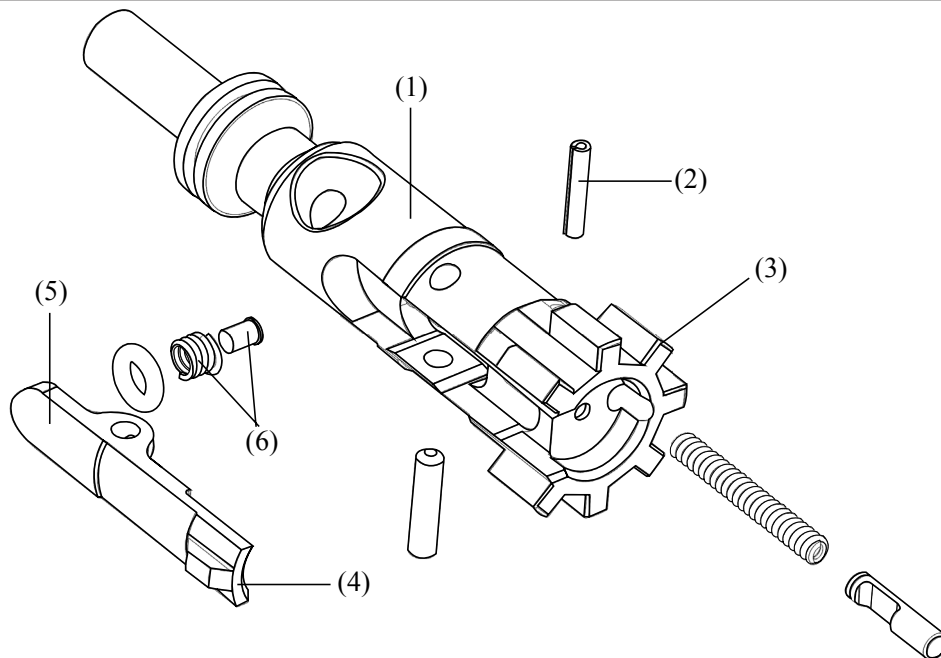


Figure 2.19

B. CLEANING**CAUTION**

Do not distort extractor spring assembly during cleaning.

Clean major contact points and lugs (Fig. 2.19, 3) of carbon deposits. Extractor and spring assembly do not need to be removed for routine cleaning and maintenance. Refer to Section III, 2-7 for preventative maintenance checks and services interval instructions.

C. INSPECTION/REPAIR

1. Inspect for cracks or damage, especially around locking lugs (Fig. 2.19, 3). Replace any components that are damaged, cracked or have excessive wear.
2. Inspect the extractor (5), extractor spring assembly (6), and extractor pin (2) for cracks, breaks, chips, and other damage. Pay close attention to cartridge extractor lip (4). If damaged, replace.

D. LUBRICATION

A small amount of lubrication is recommended on the bearing surfaces (both rear of the bolt and band that contacts the carrier) of the bolt (Fig. 2.19, 1).

E. REASSEMBLY**WARNING**

To avoid injury to your eyes, use care when removing and installing spring loaded parts.

CAUTION

Be sure to use vise jaw protective caps.

1. If removed, insert large end of extractor spring assembly (Fig. 2.19, 6) into extractor (5) and seat by pushing and turning clockwise.
2. Position extractor (5) and extractor spring assembly (6) on bolt body (1).
3. Compress extractor spring assembly (6) and extractor (5) to align holes.
4. Install extractor pin (2) by hand.
5. Reassemble BCG and rifle.

2-14 UPPER RECEIVER AND BARREL ASSEMBLY

This task covers:

- A. Disassembly**
- B. Cleaning**
- C. Inspection**

- D. Repair**
- E. Lubrication**

INITIAL SETUP

Tools

Upper Receiver Action Block

Materials/Parts

Lubricants

Equipment Conditions

Upper receiver and barrel assembly removed from lower receiver

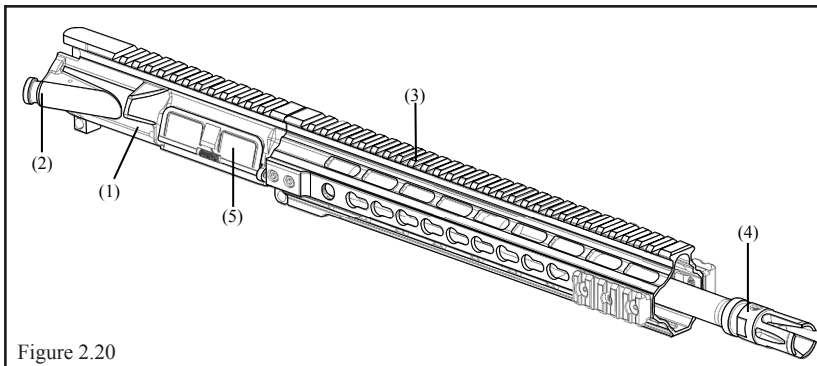


Figure 2.20

2-14.1 UPPER RECEIVER AND BARREL ASSEMBLY

General Safety Instructions

To avoid injury to your eyes, use care when removing and installing spring loaded parts.

A. DISASSEMBLY

NOTE

The KeyMod rail should not be removed as a part of routine maintenance. You should only remove the KeyMod rail to repair or to replace the rail or related components.

If not replacing any components, clean in accordance with the user manual and skip to Appendix A.

B. CLEANING

Clean all items as part of routine maintenance. Lubricate the bore brush with oil and insert in into the barrel via the chamber. Wipe powder residues and oil from the barrel bore and chamber with cleaning patches. Clean all surfaces with a brush coated in oil to remove dirt and debris.

C. INSPECTION

1. Inspect upper receiver (Fig. 2.20, 1) for breaks, cracks, or damage to the top rail that would prevent the attachment of accessories onto the Picatinny rail. Replace as necessary.
2. Inspect forward assist assembly (2). Ensure that the forward assist fully depresses and returns without binding. Replace defective components.
3. Inspect ejection port cover (5). Ensure the ejection port cover closes and latches as well as springs open when pushed open by either your fingers from the inside of the receiver or from the movement of the BCG. Replace defective components.

4. Check muzzle device (Fig. 2.20, 4) for looseness on barrel. A shim set or crush washer is used to properly align the muzzle device. Typically, if a logo is present, proper orientation is achieved when the logo is straight up at Top Dead Center (TDC). If loose or out of alignment repair or replace as needed.
5. Inspect top Picatinny rail of the handguard (3) for damage that would prevent the attachment of accessories onto the Picatinny rail. Replace as necessary.
6. Inspect the outside of the rail for damage to that would prevent the attachment of the key mod rail sections, replace as necessary.

D. REPAIR

Repair or replace all unserviceable parts.

E. LUBRICATION

Lightly oil surfaces and remove any excess lubricant. Do not over lubricate, this can cause the action to become sticky, allowing dust and debris to collect.

2-15 LOWER RECEIVER AND BUTTSTOCK ASSEMBLY

This task covers:

- | | |
|-----------------------|-----------------------|
| A. Disassembly | D. Repair |
| B. Cleaning | E. Lubrication |
| C. Inspection | F. Reassembly |

INITIAL SETUP

Tools

No special tools necessary

Materials/Parts

Lubricants

Equipment Conditions

Lower receiver and buttstock assembly removed

A. DISASSEMBLY

1. Extend buttstock assembly (Fig. 2.25: 1, 2).
2. Pull down sharply on lock release lever (3) and pull stock rearward and off of the buffer tube (4).
3. Push the buffer retaining pin (5) down to allow the buffer (6) and buffer spring (7) to move forward. Remove buffer and buffer spring.

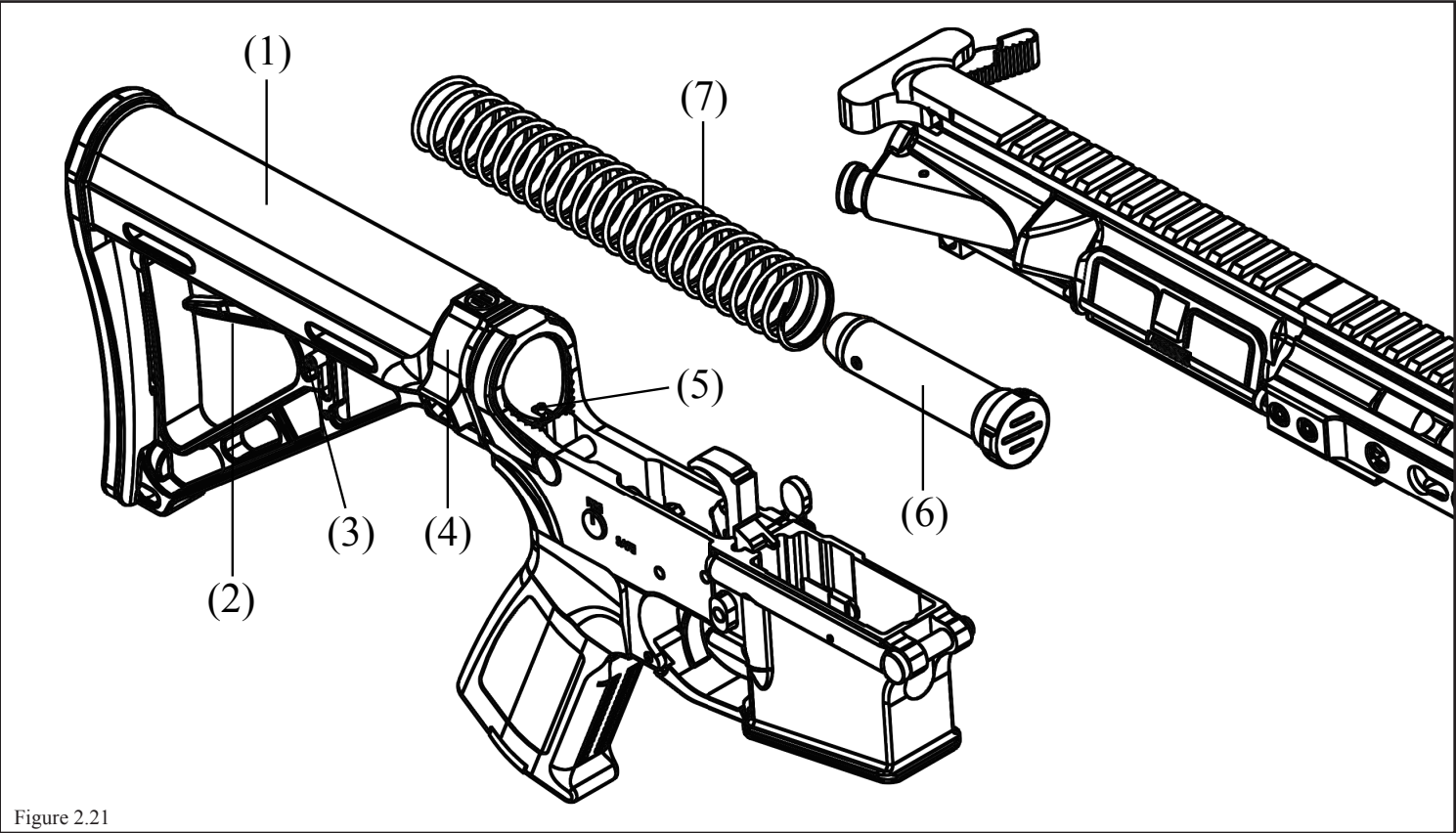


Figure 2.21

2-15.2 UPPER RECEIVER AND BARREL ASSEMBLY

B. CLEANING

Clean all items. Remove all carbon deposits.

C. INSPECTION

1. Inspect buffer assembly (Fig. 2.21, 6). If cracked, replace.
2. Check free length of buffer spring (7). Free length should be 10 9/16 inches (26.83 cm) minimum to 11 inches (27.9 cm) maximum. If not, replace. Do not attempt to adjust the length by stretching the buffer spring.
3. Inspect lower receiver without further disassembly.
4. Inspect for missing or damaged parts. Inspect finish of lower receiver for shiny spots.

D. REPAIR

Upon completion of inspection, repair or replace items as needed.

E. LUBRICATION

Lightly lubricate all metal components. Wipe off the excess and let it air-dry to a film barely visible or wet to the touch.

F. REASSEMBLY

1. Press buffer spring (Fig. 2.21, 7) and buffer assembly (6) in to the buffer tube until buffer retaining pin engages.
2. Slide buttstock (1) over buffer tube (4). Pull down on lock release lever (3) and slide stock all the way forward.

2-16 MAJOR COMPONENTS OF THE MODERN MUSKET SERIES RIFLES

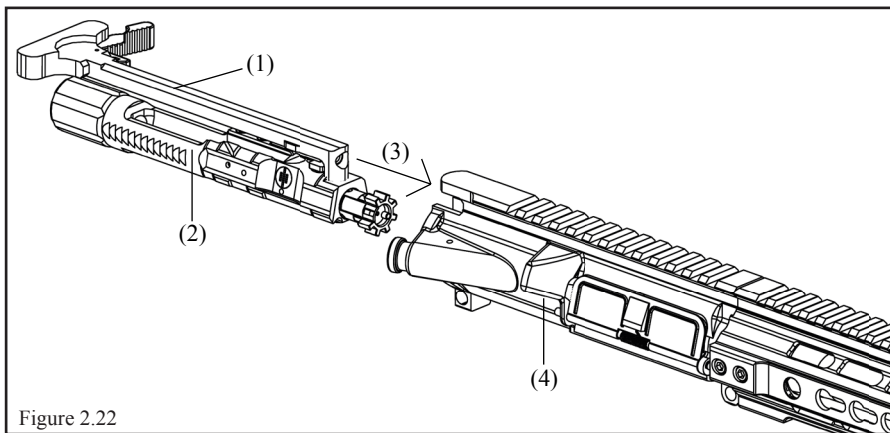
This task covers:

- A. Reassembly**
- B. Inspection**
- C. Stowage**

INITIAL SETUP

Equipment Conditions

Rifle disassembled into major components



A. REASSEMBLY

1. Slide the charging handle (Fig. 2.22, 1) forward on the operating rod until it stops against the carrier key portion of the operating rod.
2. Slide the lug portion of the charging handle into the receiver groove and slide BCG(2) forward (3) into the receiver (4).
3. Place the upper (Fig. 2.23, 1) and lower receiver (2) together.
4. Push the take-down pins in place. It is easiest to do the front pin first and the rear pin second.

B. INSPECTION

Perform the following function checks on assembled weapon:

1. Remove magazine if installed. Pull charging handle assembly to rear. Check that chamber is clear. Release the charging handle to send the BCG forward so it is in the forward locked position. Do not pull trigger. Leave hammer in cocked position.

WARNING

If rifle fails any of the following tests, continued use of the rifle could result in injury to, or death of user.

2. Place selector lever in SAFE position and pull trigger. Hammer should not fall.
3. Place selector lever in SEMI/FIRE position. Pull trigger. Hammer should fall.

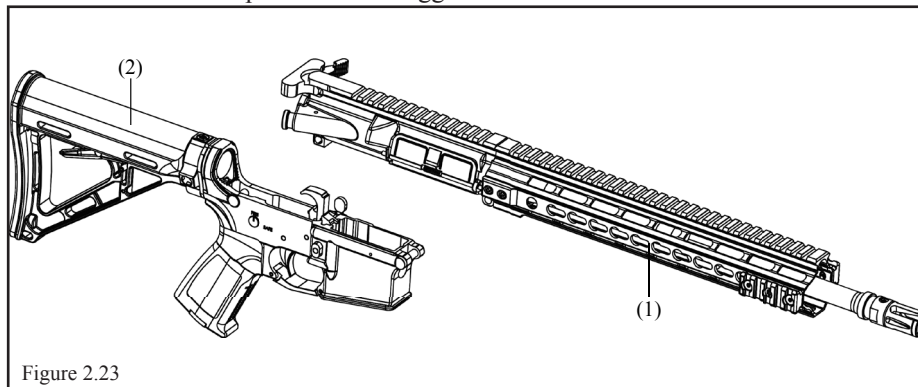


Figure 2.23

C. STOWAGE

Prior to stowing weapons in arms rooms, perform the following functions:

1. Clear. (refer to page 5, 78)
2. Place selector lever in SEMI/FIRE position.
3. Pull trigger. Hammer should fall.
4. Close ejection port (dust) cover.
5. Place weapon in rack.

APPENDIX A

CLEANING

The PWS Cleaning Kit was made specifically for the Modern Musket DI Series Rifles. This kit includes all the necessary items that you need to properly maintain your rifle. PWS recommends using the Gun-Ease line of CLP for all routine cleaning, lubrication, and maintenance. Whenever the word Gun-Ease is used, it can be interpreted as any commercially available product that falls within the required parameters of the particular application as outlined on page 56. The table refers to Figure A.

ITEM	ITEM NAME	DESCRIPTION	NSN #	PART #
1	ROD, CLEANING, SET	PWS CLEANING ROD SET, 3 PCS		1M80690
2	WIPES, CLEANING, SET	PWS GUN-EASE, WIPES		5GEWPEA1
3	PEN, APPLICATOR, LUBE	PWS GUN-EASE, APPLICATOR PEN		5GEPNEA1
4	TUB, LUBRICATION	PWS GUN-EASE, TUB		5GETBEA1
5	BRUSH, CHAMBER	OTIS .223 CHAMBER BRUSH		
6	BRUSH, BORE	OTIS 40 CAL BORE BRUSH		
7	BRUSH, NYLON, A/P	OTIS BLUE NYLON A/P BRUSH		
8	BORESNAKE, VIPER	.223 VIPER BORESNAKE		
9	ATTACHMENT, ROD DRILL	PWS CLEANING ROD ASSEMBLY DRILL		1M80692
10	ATTACHMENT, T-HANDLE	PWS CLEANING ROD ASSEMBLY T-HANDLE		1M80694

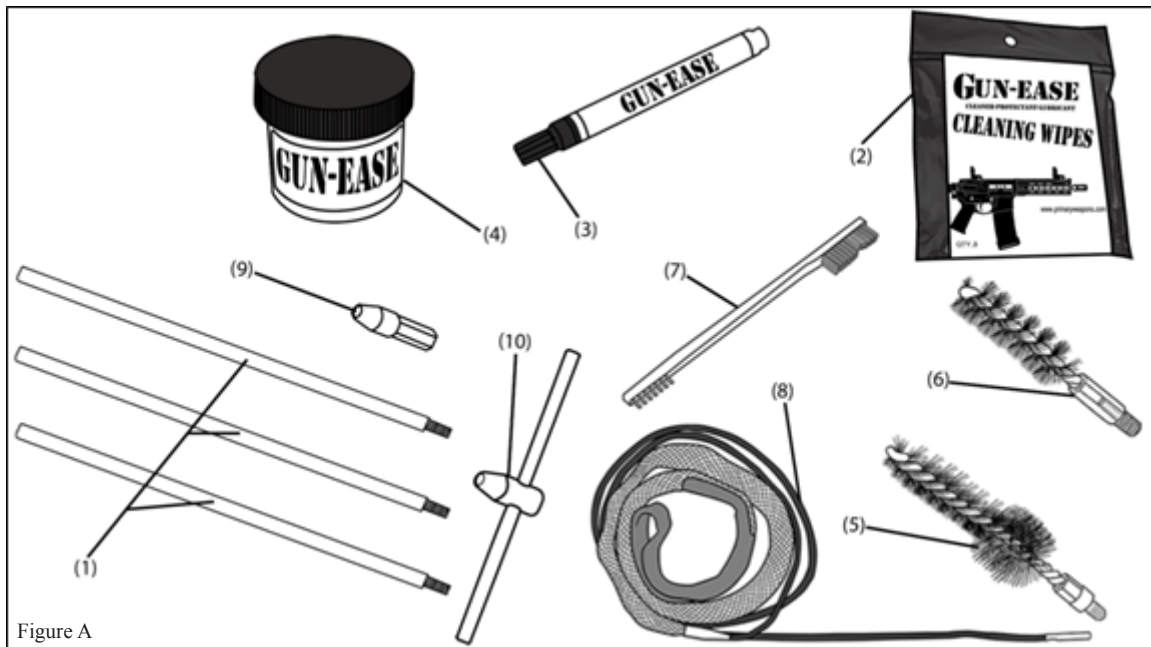


Figure A

CLEARING PROCEDURE

Orient the muzzle in a designated SAFE DIRECTION.

Attempt to place selector lever on SAFE (If weapon is not cocked, lever cannot be placed on SAFE).

Remove the magazine by depressing the magazine catch button and pulling the magazine away from the receiver.

Lock the bolt open by pull the charging handle rearward while pressing the bottom of bolt catch.

Ensuring the BCG is locked rearward, return the charging handle to full forward position.

If you have not done so before, place the selector lever on SAFE.

Visually (not physically) inspect the receiver and chamber to ensure these areas contain no ammo.

After verifying the weapon is clear send the bolt forward by depressing the bolt catch, insure the BCG is fully forward and closed.

Close the ejection port cover.

CLEANING

1. Separate upper (Fig. B, 1) and lower (2) receivers.
2. Use clean rag and Gun-Ease or Gun-Ease wipes to wipe down exterior of rifle and clean BCG and interior components.
3. Also wipe down complete lower with clean rag and Gun-Ease or Gun-Ease wipes and brush. Include the buffer tube and trigger mechanism.
4. Lightly lubricate all metal components. Wipe off the excess and let it air-dry to a film barely visible or wet to the touch.

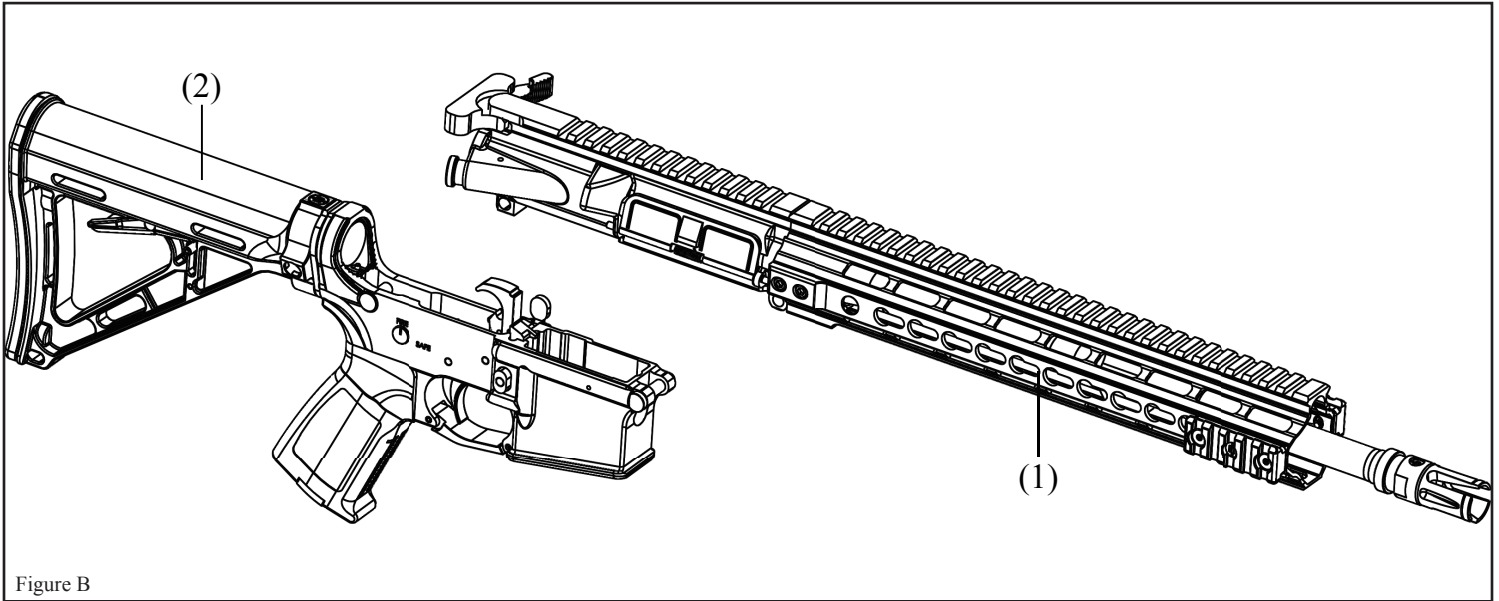


Figure B

5. Remove BCG (Fig. C, 1) from upper (2).
6. Disassembled bolt carrier group (Fig. D):
 - Remove charging handle (1).
 - Remove firing pin retaining pin (2).
 - Remove firing pin (6).
 - Remove cam pin (3).
 - Remove bolt (4) and spring.
7. Wipe down BCG (5) and minor components with a clean rag and Gun-Ease.
8. Lubrication is recommended on the enlarged contact points of the BCG (5) as well as on bearing surfaces (both rear of the bolt and band that contacts the carrier) of the bolt (4) and cam pin (3).

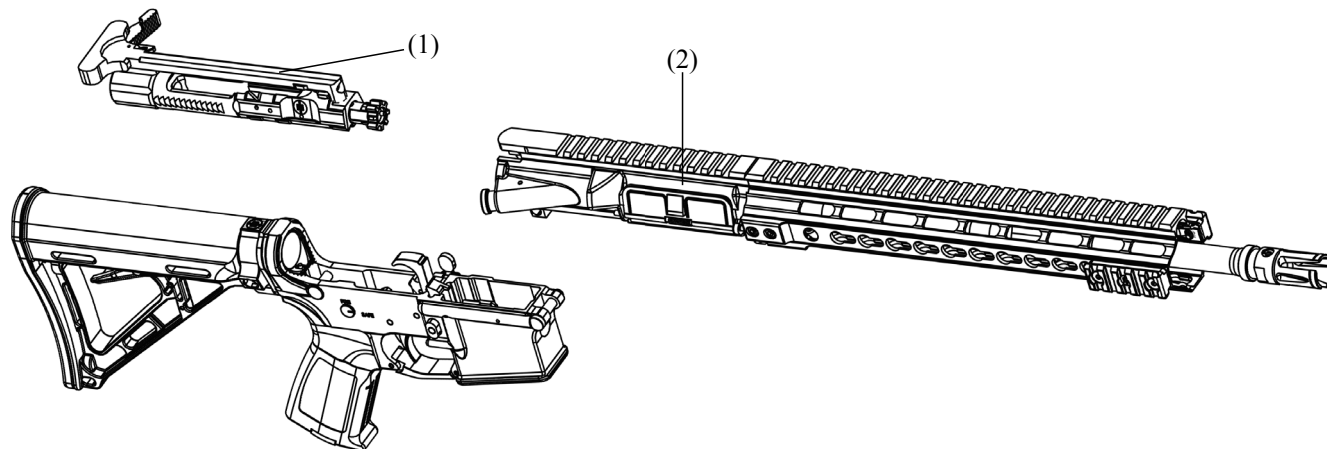


Figure C

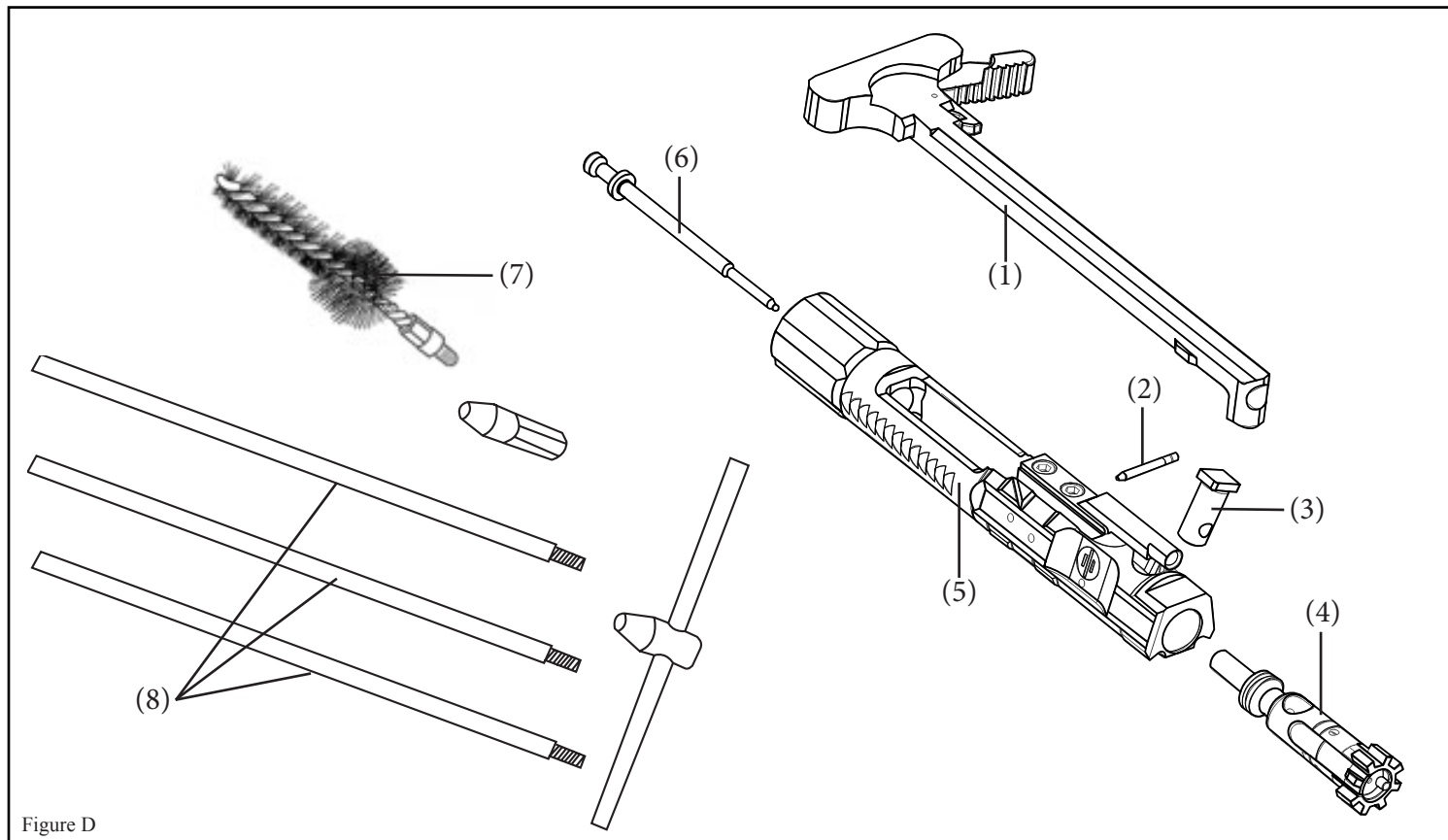


Figure D

10. Use cleaning rod (Fig. D, 8), with chamber brush (7) to apply a light amount of oil and clean the chamber. Lubricate the bore brush with oil and insert into the barrel via the chamber. Wipe powder residues and oil from the barrel bore and chamber with cleaning patches. Clean all surfaces with a brush coated in oil to remove dirt and debris.
11. Use BoreSnake to clean barrel, pulling from chamber to muzzle (Fig. E).

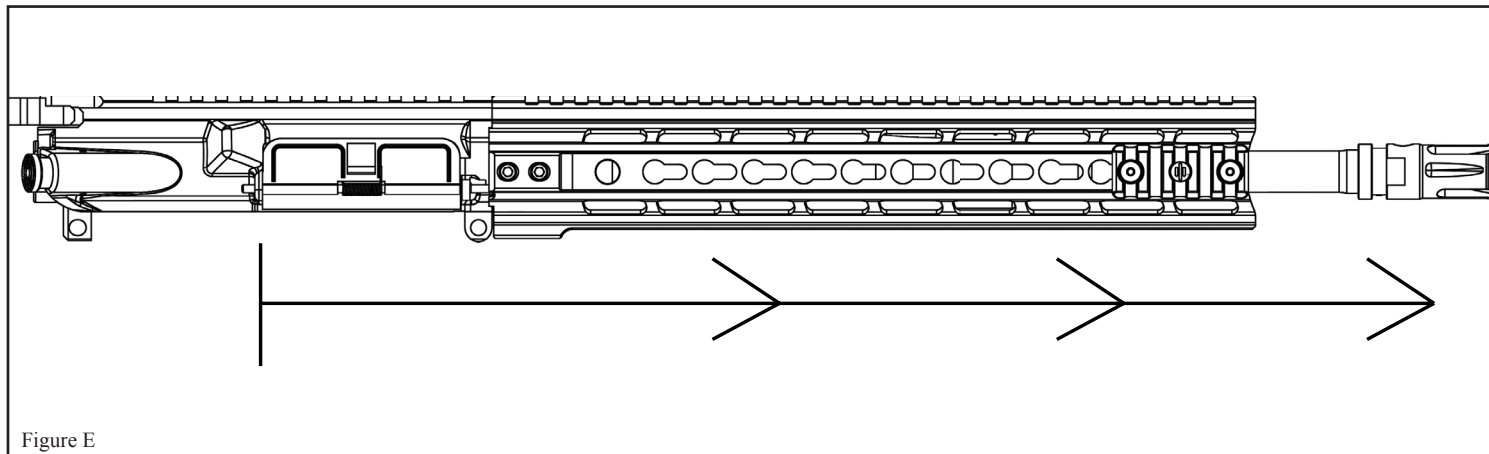


Figure E

12. Reassemble bolt carrier group (Fig. F):
 - Reassemble bolt spring (10) and bolt (2) into carrier (1)
 - Reassemble cam pin (3)
 - Reassemble firing pin (6)
 - Reassemble firing pin retaining pin (4)
 - Reassemble charging handle (5)

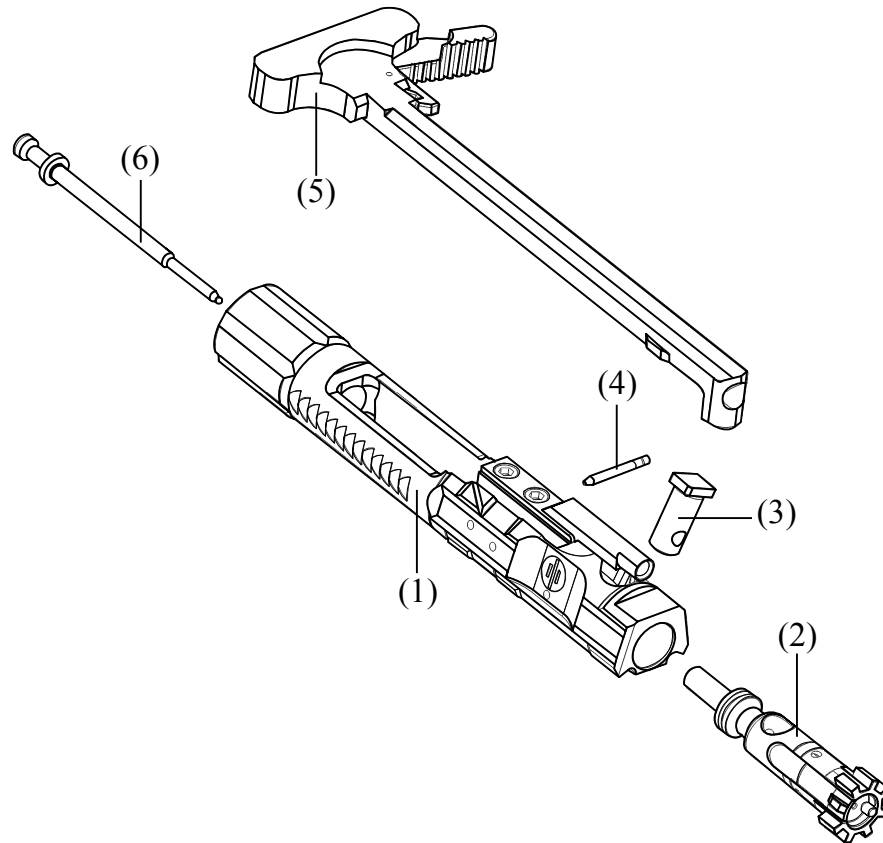


Figure F

13. Reassemble BCG (Fig. G, 1) into upper (2).
14. Reassemble upper (2) and lower (3) receivers.
15. Function check rifle, according to manual (see page 74).

NOTE

The KeyMod handguard should not be removed as a part of routine maintenance. You should only remove the KeyMod handguard to repair or to replace the rail or related components.

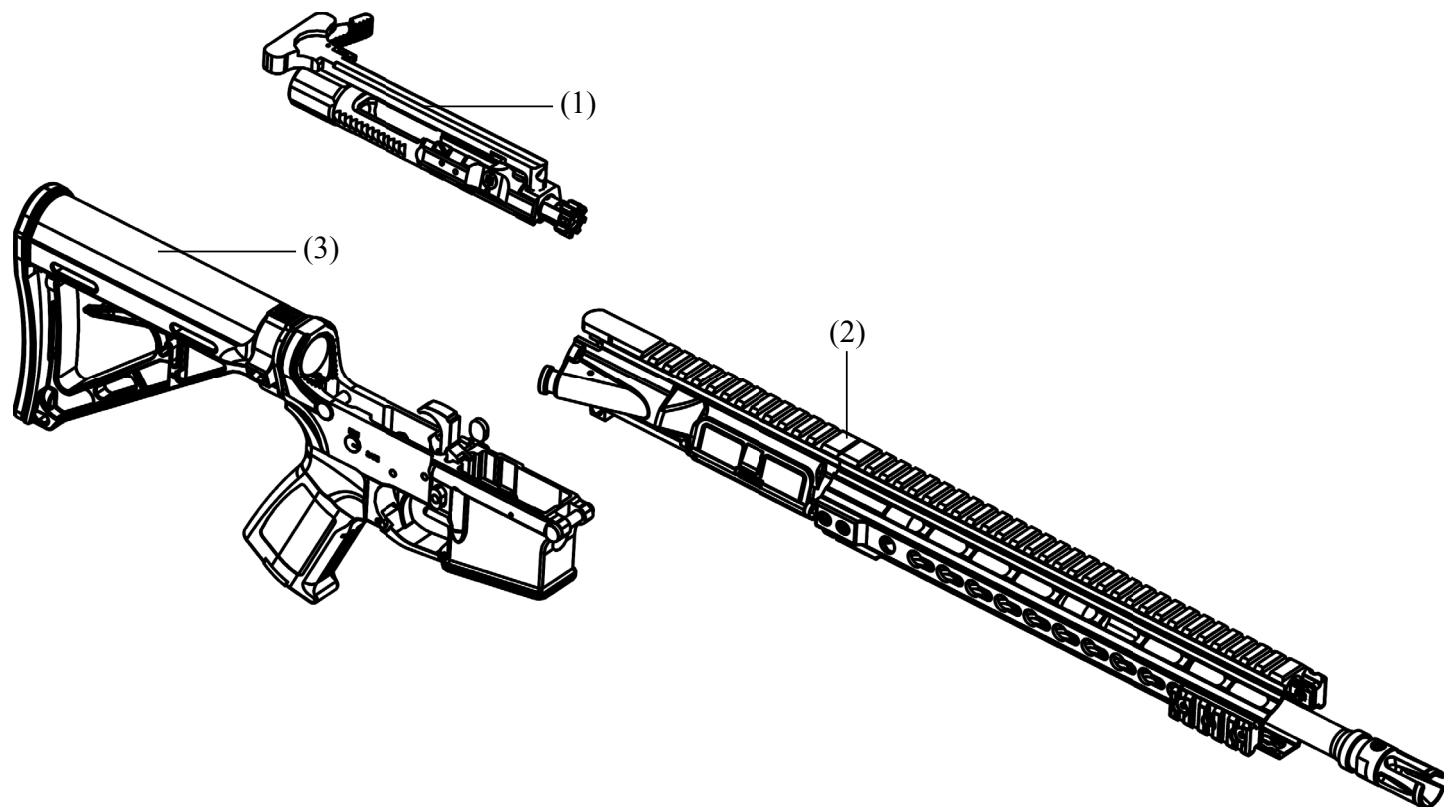


Figure G